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NATURE NOTES

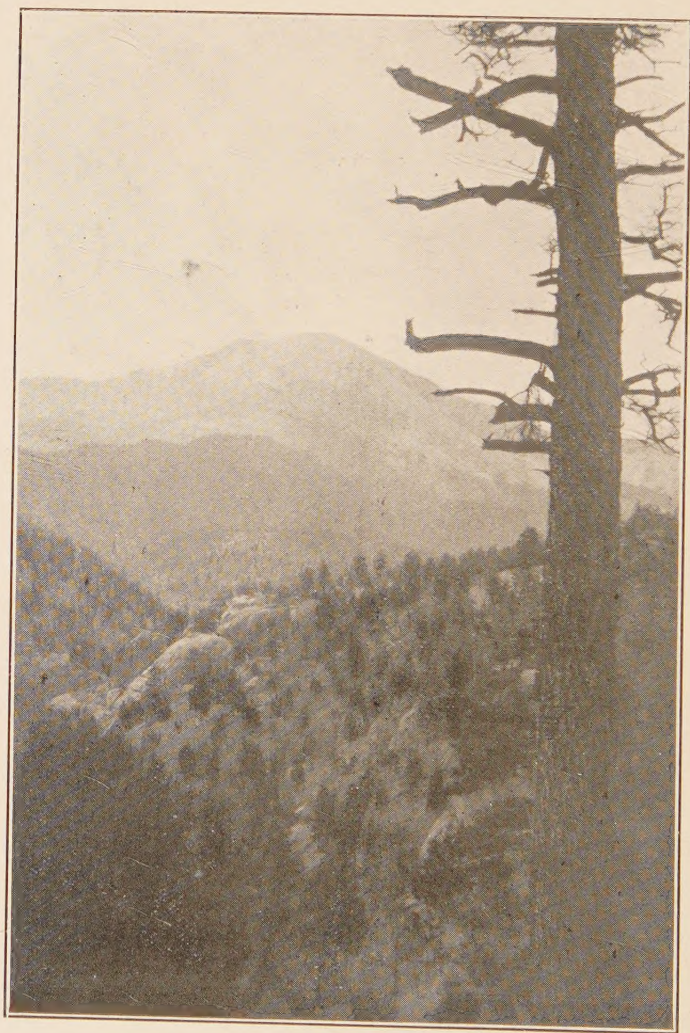
NATURE NOTES

Lloyd Shaw

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APEX BOOK CO.

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Colorado Springs, Colo.**



PIKES PEAK FROM FRENCH CREEK

NATURE
NOTES
OF THE
PIKES PEAK REGION
BY
LLOYD SHAW

DECORATIONS
BY
C. E. BUTNER

ARCH

Copyright
1916
APEX BOOK COMPANY

To
Mother
to whom this book
has always been
dedicated.

"I will go back when the grind of the working is done,
Back to my own wild folk in the woods and the hills;
Back where the sunlight with softness the deep valley fills,
Back to the secret strange place where the world was begun."

INTRODUCTORY

If you love the out-of-doors and know the faces of many of its wild folk, this book is yours. It makes no pretensions of being a scientific treatise, a guide book or a key. It makes no claim to completeness. Its plan is of the wild, a flash of blossoms here, a bird fluttering overhead, a chipmunk scurrying by and the singing of the unruled wind in the pines. Each seizes our attention for a moment, brings up a train of memories and is gone. Who would enjoy a trail through our mountains with all the flowers nicely arranged in orderly rows in the first mile, then all the birds, followed by a mile of mammals stuffed and mounted on little pedestals? No, no! We want a veritable hodge-podge of colors and sounds and delights.

During the summer of 1916 the author wrote a series of articles for the Colorado Springs Gazette, following the wild things through a season. Enough friends enjoyed them to urge that they be brought together into book form. The present volume is the result. The articles stand for the most part just as they first appeared. Some I would rather have omitted, but they might have been just the ones that pleased some reader most, and for that reason have been retained. A few new articles have been added. And here and there a little patching has been done.

INTRODUCTORY

I wish to thank the Gazette for permission to reprint these articles. And I wish to thank most heartily Mr. Kenneth Hartley for the great help he has given me with my illustrations. His life studies of flowers are unsurpassed and I am very grateful for the use of his splendid pictures of the anemone and the ladies' slipper. The bird pictures were made in Crystal Park by Mr. B. H. Stewart and myself. The views are from my own negatives.

The scientific names concealed between brackets here and there through the text are, in the case of plants, based for the most part upon Coulter and Nelson's New Manual of Rocky Mountain Botany. The mammal names are taken from Warren's Mammals of Colorado and many of the facts concerning animals are gleaned from the same source. The bird names agree with the A. O. U. check list.

As this is a nature book rather than a text, the big out doors, the places where these wild folk live has been given as much space as the inhabitants. You may read it forwards, or read it backwards, it will make but little difference in the end. You will probably be no wiser for your time, but if you are the least bit happier and feel the least desire to get out under the open sky, I am satisfied.

*Ivywild, Colorado Springs,
November, 1916*

CONTENTS

INTRODUCTORY	5
THE DIM TRAILS	15
THE FIELD	27
ANEMONES	31
THE UBIQUITOUS MAGPIE	35
THE CICADA	38
YUCCA	41
PRAIRIE DOGS	44
THE FRAGRANT PRIMROSE	47
WHITE-THROATED SWIFT	50
COTTONWOODS	53
THE QUAKING ASPEN	56
THE CHIPMUNKS	59
THE HUMMINGBIRD	62
THE YELLOW PINE	65
LODGEPOLE AND PINON	68
PINES OF THE HIGH MOUNTAINS	71
THE FIRS	74
THE CHRISTMAS TREE	77
THE SPRUCES	80
JUNIPERS OR CEDARS	83
REVIEW OF PINES	86
GRAY HEADED JUNCO	89
THE MOUNTAIN RAT	93

NATURE NOTES

SHOOTING STARS	96
THE BLUE BIRD	99
KINNIKINNIK	102
THE CONY OR PIKA	105
YARROW	108
YELLOW HAIRED PORCUPINE	112
BEE PLANT	115
THE BURRO	118
THE COLORADO COLUMBINE	122
WHITE-CROWNED SPARROW	126
WILD TOTEM POLES	130
RED-SHAFTED FLICKER	133
THE BEARDTONGUES	136
THE BUFFALO	139
CHICKADEES	143
LARGE FLOWERED SHRUBS	149
TINY FLOWERED SHRUBS	152
INCONSPICUOUSLY FLOWERED SHRUBS	155
THE ORIOLES	158
THE BADGER	161
WHISTLING MARMOT	165
BLUE BELLS	168
THE SHARP-SHINNED HAWK	172
LARKSPUR AND MONKSHOD	175
PIKES PEAK BIRDS	178

CONTENTS

THE DUSKY GROUSE	181
THE LILIES	184
TIGER AND MARIPOSA LILIES	187
SKUNKS	191
PAINTBRUSHES	195
THE ENGLISH SPARROW	198
FIREWEED	201
THE JAY BIRDS	204
THE ORCHIDS	207
THE WAPITI OR ELK	211
DEER AND ANTELOPE	215
LARKS	218
BIG GAME	221
WILD CANARIES	225
THE GENTIANAS	228
NIGHT	231





ILLUSTRATIONS

<i>Pikes Peak from French Creek.....</i>	<i>Frontispiece</i>
<i>Pasque Flowers or Anemones.....</i>	30
<i>A Magpie Urchin.....</i>	46
<i>Pines at Twilight.....</i>	78
<i>The Bottomless Pit.....</i>	94
<i>Yellow Ladies' Slippers.....</i>	158
<i>The Young Sharp-Shinned Hawk.....</i>	174

NATURE NOTES

THE DIM TRAILS.



TRULY do you know our Pikes Peak Region? You may ride through its canons, they are wonderful; you may sit on the observation platform as a tiny train crawls around its dizzy precipices; you may be shaken to the top of the old Peak itself and gaze over the miles and miles of strange country stretched out below you to dry; you may be conducted through massive piles of red sandstone boulders, with their bizarre forms; or look upon the exquisite artistry of nature's underground sculpture; and you will have had a glorious time; enough of both information and inspiration will have soaked into your soul to last you a life time, but you are still a stranger here. You do not really know the region; it has not yet become a part of you.

Wander alone out on those monotonous prairies to the east of us when they are blanketed with night. Put a low rolling hill between you and the cities' lights, and wander there with the stars. Let your imagination halloo into the silence, and call around you the cowboys and Indians of the past. Forget the barb wire fences, forget the dusty road, tear off your white collar, and live. Let your hoarse voice sing out, in the old cowboy's minor wail,

NATURE NOTES

"Oh, bury me not on the lone prairie,
Where the wild coyotes will howl o'er me,
Where the buzzard waits and the wind blows free
Oh boys, bury me not on the lone prairie."

I know of a pile of rocks "about six by three" that is out on one of the yucca patched hills of the mesa. As you sit down there, another hill rises between you and the city, hiding it from view, and all you can see is the rolling plains beyond. To the north they warp into a little ridge, this grows and grows as your eye moves westward, until it becomes the tangled mountains. Due to your west the wierdly colored defile of Glen Eyrie opens towards you. South of that the tops of the great red sandstones peep over the mesa's edge. On beyond are higher mountains, and standing out waist high above them all is the massive hulk of the Peak, chiselled and snow patched. Many a familiar mountain and canon can be seen to the south, and crouching beyond them all is the huge serpent form of old Cheyenne with its pointed snout stretched out in sleep on the plains. Except for a few unsightly gashes in the mountains here and there, and a derelict bit of barb wire fence nearby, it is all just as God left it a thousand years ago.

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THE DIM TRAILS

Be a youngster once again; hang an awkwardly rolled pack of blankets and grub over your shoulder, and with a young comrade trudge into one of those canons. Argue and quarrel with your dauntless companion as to how and where your camp shall be pitched. Call up all the woodcraft that you do not know, and explain to him just why you are right. But keep secret within you the knowledge that this is the first night you ever proposed to spend out in these hills alone; gloating all the time over the inward assurance that your companion has had no greater experience.

Gray clouds come up from the valley with the twilight, a mist enshrouds you, and your clothes become all but wet. Great beads of dew hang on the spruce boughs, the darkness closes in upon you and it is night. You crunch on over the dark trail, with the water squidging in your shoes, and at last come to the big rock under which you meant to make camp. The rain is drizzling down and you cannot light the paper. Your matches are almost gone. The last scrap of paper has burned up against the stubborn twigs. You don't cry, you are too old for that, but age can never keep you from wanting to. You hastily roll up your blankets again and throw them half tied over your shoulder. You gather up the naked grub in your hands, all the wrappings hav-

NATURE NOTES

ing been sacrificed on the altar of the fire god. The loaf of bread that you clutch in one hand is becoming hopelessly soggy and the string of beefsteak in the other is dragging more than you wish against the bushes.

The trail is hard to follow in the darkness, and soon you stumble and fall repeatedly. You tremblingly tell yourself over and over that this is a bully experience and you are enjoying it immensely. But oh, how you know you are lying. The night grows larger and it frightens you. Then you hear the drip, drip, drip, from eaves on a tin can of some sort and you stumble towards it and grope your way around a dismal log cabin. Everything is locked and barred; your heart drops down again and something heavy takes its place in your throat. Under one corner of the cabin is a little hole and you crawl in under the floor dragging your blankets in with you.

You lie there in the dark and tell each other how fortunate you are and what a comfortable night you will have. But all the time you see mother and father sitting by the study table, you see the pages of your father's book turned over regularly every minute and watch the busy needle fly in the deft hands of your mother. Then they get up and lock the door, and go get a drink; and you see the little

THE DIM TRAILS

white bed, that is empty tonight. And you quit thinking again and tell your friend how great it is here under the floor. Then comes that blood curdling yell from the darkness outside. It comes closer and closer. You tell yourself that nothing would come under the house after you. But as you recall the raw beefsteak that dripped and dragged through the bushes, misgivings seize you. Perhaps its babies, whatever it is, are starving and—. "Are you afraid," your brave comrade asks.

"No," you answer, and listen again for that awful cry.

You lie there and strain your ears for it, you think of jumbled things and at last fall asleep. In a few minutes you awaken. You grope your hand over Joe and he is asleep. The rain has stopped. You are all alone with the big night. Weeks and weeks, you wait there in the dark and the silence. Your hips stick out so that you cannot lie straight. You are afraid to crawl out into the open. You wait. Years go by and at last the sky turns gray; a bird note strikes your ear. You crawl out into the dawn light. In a minute your comrade is at your side.

"Gee, you had a swell sleep", you say to him.

NATURE NOTES

"Nope," he answers," I've been lying there all night waiting for you to wake up."

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There is snow on the ground today but come with me over Cheyenne mountain. This is just what we want. We'll crawl up hobo trail onto the stage road and wind our way around onto the back of the mountain. Then up we shall trudge through the ever deepening snow until we reach the park on top. Here the snow is knee deep and covered with an unsubstantial crust. It will not hold you when you step onto it and you cannot break it with your knees. So up you step, stand erect and break through again. It's a couple of miles of this heartless work that is before you. Clinging to the aspens you try to sneak along the top. You get upon your hands and knees and try if crawling will make it better. But after plunging a bared arm down into the cold a time or two you give that up, and doggedly break your way through the unending crust.

At last we climb up onto that little southern peak. Across the white hills we can see Raspberry mountain. Its position is much the same as ours. We climb up onto a boulder and take in the view.

THE DIM TRAILS

To the north and west are hills and hills piled one behind the other and topping them all is the Peak. Virgin white it stands beyond; so high, and far, and pure, and cold, that it seems of another world.

It was from Raspberry mountain, they say, that Pike looked across fields of snow like these upon that distant peak and waving his sword in salute declared that no human should ever climb to its summit. Brave old Pike, miles it was to the nearest settlement. I wonder if the snow was crusted like this the day he climbed up to the top of his little hill. We will not scoff again at that prophecy. I will leave you alone here for a minute. Just stand up on that high boulder, and look around you, and think.

* *

•

Come over here to the end of the track and we will climb down onto that large boulder below the triangle. The cliff rimmed hollow below us, choked up with a chaotic mass of boulders, is the bottomless pit. Anyone here on Pikes Peak will tell you that that is its name. Some have crawled down into it, and still they have never seen it. If your soul feels large today and your self is small enough in the face of God's immensity spread out below you, then perhaps you can go down. No, I won't go with

NATURE NOTES

you; I've been down, and you won't really see it unless you are alone. Never mind that blabber, what does he know about danger? If you keep your wits about you, you will be perfectly safe. And if you are thinking about business, friends, troubles, empires, and the petty things of this world, why, you will come out at the bottom in an hour and pronounce it all a perfectly commonplace trip. Just a pile of rocks and a bum trail at the bottom.

But if these things don't matter to you today, and your soul is straining out into space and sort of hunting for something that has been lost for ages, why go. Let yourself down from that jagged boulder, crawl around there and squeeze down thru that little crevice, pick your way carefully! Hang your length over this boulder below and reach for a footing. Then study the rocks and let yourself down another step. Your foot sets a boulder loose, it plunges over the little cliff and strikes another, your heart jumps up into your throat. These two have electrified the whole mass and below you dozens of huge rocks are plunging down that shifting slope. The roar of their rebounds echoes back and forth from the narrow walls of your cliffed-in prison. You deliberately smile, about half a smile, and lift your eyebrows. Then you look up, and find

THE DIM TRAILS

that the summit is lost to you. The cliffs seem straight up above you. Did you come down that? You halloo, and there is no answer except the intensified echo that is bounding back and forth from those cold cliffs.

You are now picking your way down a great rock slide and it is over a mile to the bottom. Here are tiny rocks that you could lift, and small ones a trifle larger than yourself, and boulders as large as monuments and huge ones the size of a house. Balanced one on the other they are waiting to roll down the slope. Start one rolling and a rocky torrent will plunge after them and their reverberations in that narrow defile will deafen you. When your soul crawls out again, and looks around all will be silent as death and you will listen to the cushioned softness of your breath. Deeper and deeper you go and still the little cabin that you see hiding down at the bottom is the same distance from you that it was before. After balancing and stepping carefully for an hour, you come out upon the barren floor of the pit.

Here is a low earth-covered cabin of logs. You push in the weather whitened door and find a prospect hole in the very center of the single room. Outside the trees are prostrated and form huge bush like clumps. You are just at timberline. Brilliant

NATURE NOTES

alpine flowers are blooming at your feet. Behind you is the rocky defile down which you have crawled and you find yourself ringed in on three sides with perpendicular cliffs. A ridge runs eastward and parallels the north slope of the Peak. Between them is a narrow canon. As you step out from the cabin you find a lusty stream springing from the ground below your feet, it blusters down a series of rocky cascades and then winds through a thicket of spruce that fills the canon's bottom. Beyond these the canon narrows. Through that magnificent "V" you look as through the sights of a mighty gun, and see the rolling plains beyond.

So the Bottomless pit is not a pit at all you think, but only a glacier sculptured gulch which turns such a sharp angle, that from above, its exit cannot be seen. As you muse, you hear voices down below. Little children are laughing and calling out in boisterous play, the undertone of hoarser voices mingles with them. Then the laughter filters in from the distance more like the frightened screams of little girls, and the tone of the hoarse voices rises up until you can almost hear the guttural oaths of some maddened brute. You call out, but they do not stop. You are fooling yourself. There is no one there. But another wind brings them to you again so clearly that you can almost distinguish the words. You

THE DIM TRAILS

walk quietly down the winding trail, listening intently. They grow louder, then die out altogether, then start up softly again. Not until you are down deep in the shadow of the spruces can you assure yourself that it was only the wind sighing in the branches and the laughter of the lilting stream on its granite bed. You are relieved and disappointed. You are unbearably lonesome. Your trail carries you over mossy banks, by flower hidden streams, over deep cushioned needles, through moss-hoary forests of spruce, whose straight spires reach up a hundred feet above you. Your soul gloats in the beauty. It longs to stay. But your lonesome self is hurrying you as fast as it can to where it can hear a voice speak out and break the charm of this aeolian harp playing in the dark spruces above you.

* *

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Go into that pit if you will; trudge over miles and miles of our trails; slush through rainy alpine meadow-land; awake from a lonesome mid-day nap and grope out for a moment with your consciousness to find where you are, and tremble to find nothing to answer you but silent trees, and a ring of lonesome peaks; plough through a great silent snow filled canon and listen to the cheerful chatter of the chickadees; watch the flowers of spring and

NATURE NOTES

glory in the gold covered hills of autumn. Live your whole life in our mountains if you will and still you will not really know the Pikes Peak region.

Sing me your praises of the cruel Yukon, of sunny Hawaii, of the magnificent peaks of the Canadian rockies or of the unparalleled Alps. They may be all that is claimed for them. But here in the shadow of this silent peak, are dells enough, and valleys and canons and peaks and God-built slopes, to fill my soul to overflowing. There is more here than I can stand. And each day that I am able to spend alone out in its vastness and its delicate beauty, awakens in me longings to know it, to become acquainted with it, to recognize its moods, to be a part of it all. But the fulfillment of this wish must truly rest beyond the borders of this good life.



THE FIELD



OLORADO is a great big wild-flower garden, a sort of big rockery with set beds of sun-flower and cactus around the base and every manner of scrambling plant growing in amongst the crevices. It is a truly wonderful garden in the number of varieties that it grows. To be sure, the mere fact that we Coloradoans think so makes no difference at all; but government dried statistics prove that we have a greater variety of wildflowers, of birds and of animals than any other state in the Union, with the possible exceptions of Texas and California.

California is more than half again our size and stretches its dangling length from somewhere near Alaska down to the tropics, and Texas has over twice the area of Colorado. This rules these two states out completely. It puts them in the heavy-weight class and leaves us an undisputed champion of the respectable middleweights. Area for area, we can still boast supremacy until some disputant steps off a hundred thousand odd square miles or so down in Texas and hangs around for a few days until he counts things up.

NATURE NOTES

Visitors from the east often insist that they have, for instance, more English sparrows and dandelions alone within the limits of their cities than all our birds and flowers put together. They are welcome to them; and they do, indeed, have a greater actual number of birds and flowers, but representing a decidedly smaller number of varieties. We have fewer individuals of each kind, but we have far more kinds. We don't go in for duplicates and traders in our collection; a few choice specimens of each kind are all we want.

In their respective publications, Ellis and Henderson describe 56 species of reptiles and amphibians; Warren gives 155 species of mammals; Cook claims 403 species of birds for the state; Rydberg lists 2,912 species of plants, and enough more have been described to bring the number well beyond 3,000 species. As for the insects within our borders, no one has yet had the courage even to begin to count them.

There is a very sound reason for this abundance. With the varied topography of our plains and mountains we have an approximate duplication of the life forms found from Kansas to the North Pole. If we should start from Colorado Springs and walk north, we should encounter something of the same prairie formation between here and Denver

THE FIELD

as would be found in eastern Kansas. We should then seek a good corn doctor in Denver and, after treatment, continue our journey northward by going to the public library and walking rapidly thru the pages of some good descriptive geography. It is much easier hiking thru print than walking between long rows of sign-bedaubed telegraph poles on a dusty country road. But either way we should soon reach the rolling hills of Wyoming, covered with yellow pine and Douglas fir. Beyond that we should traverse the beautiful spruce forests of Canada, and gradually draw into the more picturesque forests of that rich strip of country reaching westward from Hudson bay. Then we should come out upon the treeless steppes, with their dwarfed willows, grasses, and cushion plants; and, if we pushed on farther north, we should find lichen-covered rocks in the shadow of the Pole.

But that's a long trip, and would prove tedious to a man in much of a hurry. If he would come to the Pikes Peak region he could take the same trip in a single day, in a sort of condensed or predigested form. In walking westward to the mountains he would pass in a few miles the Kansas plains formation and reach the rolling foothills with their open forests of yellow pine and Douglas fir. A few miles up the slope and he would reach the spruce forests

NATURE NOTES

of the Canadian zone. A little above the Halfway house he would enter the more picturesque forests of the Hudson bay zone and then pass out upon the treeless slopes of the Peak, with their dwarfed willows and grasses and cushion plants. And on the very summit of the Peak he would find lichen-tinted rocks in fields of perpetual snow.

Colorado really is a paradise for nature lovers. And Colorado Springs, being located as it is, at the base of one of the greatest arctic-alpine peaks and yet with the Kansas plains rolling eastward from it, makes the Pikes Peak region the very cream of this little paradise. In this volume it is proposed, to point out the choicest prizes to look for in this paradise and to answer as many as possible of the questions that may bother gleaners in our rich field.





KENNETH HARTLEY Photo
PASQUE FLOWERS OR ANEMONES

ANEMONES



WHEN the Hollander clumps along the dikes in his wooden shoes admiring the fields of tulips and hyacinths; when the busy Londoners, thrilled with the touch of spring, take the trolley to the king's garden at Kew to do homage to the deity of the season; when the holiday crowds wander along the highways of Japan bedecked in many colored kimonos and with bright parasols, revelling in the cherry blossoms that canopy the roads; when our New England cousins shout and frolic thru the woods to gather the first wake-robins and the earliest sprays of trailing arbutus; we of the Pikes Peak region catch the fever of the season in our blood and turn out to sport in the fields of the anemone. We saw a single blossom in a buttonhole last Sunday; someone has said that the hills are covered with them. With a fair Sunday afternoon we find the cars loaded, pedestrians trudging along dusty roads, automobiles whirling gay parties past us and all paths leading to anemone hill.

And what a beautiful harbinger spring has chosen to announce its coming. A simple cup of

NATURE NOTES

blue filled with bright golden stamens which almost hide the fuzzy little pistils in the center, and the whole plant warmly dressed in white woolly furs. Sometimes the cup is an inch and a half across and the different flowers display all shades of blue from almost white, thru the cerulean shades of our sky, to the deepest of deep purples. It is a real thrill to a spring-hungry heart to find a timorous little anemone pushing its woolly cap up thru the surface of the snow.

This flower is found blossoming as far east as Illinois, as far south as Texas and into British Columbia in the northwest. It is the state flower of South Dakota. Thru all of this territory it is known by a variety of names. Some of the less poetic names are hartshorn plant, headache plant, badger, and American pulsatilla. There is a humorous attractiveness in "gosling" and "April fools." Wild crocus, mayflower, and Easter flower suggest the earliness of its bloom. Prairie smoke, prairie anemone, and rock lily are all appealing. And the name wind flower is shared with the true anemone. For really this is not an anemone at all. Its correct common name is pasque flower and it belongs to only a closely related genus.

After all what's in a name but a lot of trouble. Most people stampede if you ask them to learn "one

ANEMONES

of those long Latin names" for a plant. "If a name is scientific it must be difficult. Give us common names or give us none" they say, and with characteristic consistency the people pick out the very worst of the scientific names and adopt them into their speech without a shudder. Anemone, for instance, is a scientific name which translated means wind flower. But since most people do not know this they accept the Latin and, really thinking it common, apply it to the wrong plant. Chrysanthemum, nasturtium, geranium and anemone are all Latin or scientific names. And anemone is the hardest of these. It is so difficult to pronounce that one out of every three persons fails in spite of correction and calls it "anenome" instead of "anemone."

Our little pasque flower, which name we wouldn't have you adopt for the world, since we are all wrong together and the name has too strongly endeared itself to be changed, is really in a different genus of plants and is known as Pulsatilla. It differs from the true anemone in that its cup is broader and when it goes to seed, each seed has a very long plumey tail, while the seeds of the anemone are simply a woolly little bundle.

Our true anemones are not a whit less pretty than their cousin. We have blooming now, along some of our streams, the Canada anemone (*Ane-*

NATURE NOTES

mone canadensis) with its chalice of pure white. The plant is much taller and has many narrowly divided leaves, but the blossoms are quite a little smaller than the blue form of spring. When cut it wilts rapidly and serves rather poorly for a bouquet, but in the field it is hard to find a more beautiful blossom. In the higher mountains the red anemones are beginning to bloom (*Anemone globosa*). Here again the plant is fairly tall, a foot or more, and the blossoms are distinctly smaller, seldom over half an inch in diameter, but colored with the softest shades of pink and red.

Every one glories in the anemone of spring. Why do they neglect the beautiful forms which blossom on during the remainder of the year? It is their loss alone. But the fields and mountains are full of such beautiful specimens, it is a shame that any child can grow up without making their acquaintance.

Come now, let's go out into the hills and open our eyes wide!

THE UBIQUITOUS MAGPIE



H! Mama, Mama! Look at the magpeckers!", cries the pretty tourist in the back seat of the rubber neck, as a few heavy black birds sail slowly and noisily over the row of cottonwoods beyond the creek. If Colorado were to choose a state bird and made its choice on the grounds of conspicuousness, there would be only one candidate in the field. The magpie is an integral part of our landscape. There is not a tourist guide in the region but has been repeatedly asked, "What are the large black birds with the long tails and white on their wings?"

They are found everywhere from the plains to timberline, for they are not uncommon on the barren slopes of the Peak. They are most numerous along the streams that flow out from our foothills, where large thickets of scrub oak and willow grow, or little woodsy spots of cottonwood flourish. It is here the breeding colonies are found and the huge nests make tiny trees top-heavy.

The nest is a sort of private or individual hotel, with lots of timber used in the construction. It is a huge pile of sticks saddled in the crotch of a scrub

NATURE NOTES

oak. If we could crawl inside with the fledglings we should find a mud cup, lined with hairs, and from its depth could look up and see snatches of sunlight filtering through the domed roof. It would have an entrance at either end, like my lady's muff, for the owner could not possibly turn around inside and manage the elegant train of feathers which she drags behind her. She goes in the front door and has to continue right on through the house and out of the back door. If we return next year we will find things tidied up a bit and a few more sticks piled on for no apparent reason. Each year the proprietor puts a few improvements on the place.

Lets have a look at the loquacious proprietor himself. If we are quiet and let him do all the talking he may come close enough for us to see his fine clothes. He is dressed in sheer black, with a prosperous white waistcoat adorning his bosom. The white breast divided by a clear line from his black neck, together with the white on his shoulders and wings is somewhat suggestive of a choir boy's surplice. The inner web of each wing feather is white. His black head shows a bronzy metallic luster which is also seen at the tip of his back, "and thereby hangs a"—tail. It is long and somewhat narrowly kite-shaped, with the most marvelous touches of metallic green-blue and iridescent purple.

THE UBIQUITOUS MAGPIE

We must retract that choir boy comparison, for his voice sounds like an ungreased wheelbarrow attempting grand opera. His harsh squawks have such a range of expression that at times he seems to be almost saying something. If caged and encouraged he develops quite a vocabulary and becomes as proficient a linguist as the parrot. The barbarous practice of splitting his tongue is gradually being discontinued, for it makes him talk no better than would splitting the tongue of his owner.

In some ways he is a better bird either caged or dead, for he has a bad reputation in the wilds. He is a nest robber and very vindictive in disposition. Every bird lover knows that a pair of magpies about a place will drive away the other birds and in many localities a serious attempt is being made to exterminate them. We must admit that it will be better for the bird life of the state. But who is there who will not miss the huge black and white aeroplanes as they sail overhead, their harsh squawking as they sit in council, their inquisitive raids on our scrap heaps in camp, and the great nests that punctuate our journeys along a cottonwood creek.

THE CICADA



WE HAVE reached the summer solstice and the chorus of the cicada is in full swing. If your trail leads you across the sun-burned slope of one of our mountains, in the hottest part of the day, the song of the cicada becomes so incessant, so monotonous and so interminable that you become almost unaware of its presence. The singer is often known as the dog-day harvest fly, the lyreman, and more often, tho decidedly incorrectly, as the locust. If you are already familiar with the song of one of the stronger voiced and more talented eastern species, you may not even recognize this as the song of a cicada. But slow up for a minute, follow the noise to its source, and on a branch of a pine or of a mountain shrub, in the full glare of the sun, you will find the singer. He is well worth a few minutes of your time.

His song is a dry, sibilant sort of a rattle. It is somewhat suggestive of steam escaping from a tiny leak. It can be easily duplicated by letting your thumb run over the corners of a pile of cards, as in shuffling a deck. If you but had a little resonator to amplify the sound and patience enough to keep

THE CICADA

it up for hours without varying the speed or changing the tone, you might almost approximate the song of the cicada.

The singer is a very clumsy fellow. He is about an inch in length and has a very thick body striped with red and black. In front (as one might almost expect) is the head, a large triangular mass, cornered with two very large eyes and terminated on the under side by a long sucking proboscis. The glass-like wings trail on behind, half again the length of the body.

But the interesting thing to study is his musical instrument. A little to either side of the middle of the back, on the line dividing the thorax from the abdomen, can be found a little bulging membrane strengthened by parallel ribs of a stronger material. This is pulled in and released with such amazing speed as to produce the rattling song. If you are of an inquiring disposition it will pay you to take a few minutes to study the rest of the mechanism.

Take the cicada in your hand. If you miss him he will make a terrible noise and squirt out a little stream of harmless fluid. You may feel lucky that you have escaped with your life after the fuss he makes. But it is all bluff. He cannot possibly hurt you, and if you succeed in catching him he will sing for you even louder than before. Now look on the

NATURE NOTES

the same dividing line, but on the under side, and you will find two little openings of a very interesting nature. Study out the relation of the "church" and "mirror" and decide what each part does in the way of amplifying or modifying the sound.

If you would learn more about the singer, you cannot do better than to read the first few chapters of "Social Life in the Insect World," by J. Henri Fabre. Here the inimitable French scientist explains to you the life history of the cicada, from the laying of the eggs in the branches, thru the life of the underground larva which lasts for several years, until at last it crawls from the ground, sheds its skin and lives a few months supping juices from the limbs of plants and glorying in the heat of the summer sun. It is charmingly told; and all to refute the old fable of the grasshopper and the ant. For our cicada is really the hungry grasshopper of the legend who was turned away from the doors of the busy ant with "Oh ho! So you sang all the summer, did you? Then you may dance hungry thru the winter."

YUCCA



OUR western edition of barefoot boy must often think of our plains and mesas as being huge pin cushions set with sand-burs for brooches, cactus for pins, and Spanish bayonet for needles. As we ride in from Kansas, the big pin cushion that stretches out to the east of us fairly bristles with the Spanish bayonet (*Yucca glauca*). At this season of the year a straight stalk is seen rising from the green porcupine, from which droops a myriad of greenish-white or cream-colored flowers. It is a stately floral monument and has been used as a motif by many western artists.

Let us examine one of these pendant blossoms. It is a cup formed by six fleshy overlapping petals. From the center a long green pistil projects into the middle of the cup. The terminal half inch is three ridged, while the basal portion is quite swollen. Six long, fleshy, white stamens surround it. The flower is very simple, and therein lies its beauty.

If there is a little girl in the party it will pay us to make a doll out of the blossom. Let us pull off all the petals but one, which we shall leave for a cape; then remove all but two opposite stamens—

NATURE NOTES

these will be the arms; then pinch off one of the terminal ridges of the pistil and split the other two, thus making a sturdy pair of legs. By a little careful trimming, the remnant of the flower stem and the bases of the petals can be designed into a perfect Mexican sombrero. And there we have Pancho Villa. "Gee! ain't he cute! Let's make a whole army of him!"

This mustering of a Mexican force will inspire the small boys to arm themselves with daggers. They will cut a stiff leaf close to the ground and push a cross piece thru it a few inches from the basal end, making a good handle, and then they will have a trusty dirk, sharp enough to draw blood, yet not apt to give a mortal wound.

If we are more practical minded, we can dig up the roots, pound and cook them with water and make a splendid soap. Or, with the help of the ghost of some old Indian squaw, we could prepare fibers from these long leaves, from which we could weave coarse garments, fashion baskets, and make good strong rope.

The generic name yucca, which comes from Haiti, is perhaps, the commonest name for this plant. It is also called soap-weed, bear grass, Adam's needle and Spanish bayonet.

YUCCA

The most fascinating thing about the yucca is its partnership with a little moth. It is so constructed that it cannot pollinate itself and could never set seed if some outside agent did not deliberately carry pollen from the stamens of one flower to the pistil of another. This cannot be accidental as in most flowers, but must be deliberate. Now there is a little moth, called *pronuba*, whose baby caterpillars would starve to death if they did not have young and juicy yucca seeds to eat. It therefore behooves her to see to it that the yucca is pollinated. So the faithful little partner deliberately carries pollen from one flower to another and then carefully stabs the base of the pistil and lays her eggs within, where her babies can feast on their choice dish of growing seeds. But they are no gormands and always leave enough seeds so the plant can perpetuate itself. Pull off the next dry pod that you find rattling on a last year's yucca stalk and find the tiny holes the *pronuba* has made as a witness to this wonderful partnership.

PRAIRIE DOGS



O OUT upon any of the roads from Colorado Springs and you are apt to find a "dog town." Here you may see the clay-brown owners scampering around visiting with the neighbors. At your approach each one runs for his front porch. Some scamper down, others sit motionless upon the parapet. They will discreetly bark at you; but betray the least false move and they will be found in their basements. And that is about as much as is generally known about the prairie dogs. We see their stumpy, clumsy movements, comically earnest barking and their disappearance.

We will have to go to authorities to find out more about them. Vernon Bailey describes a "dog town" in western Texas that covers 25,000 square miles and numbers at least 400,000,000 inhabitants. These huge colonies prohibit agriculture and make the ground almost impassable for any kind of traffic. The dogs live mainly upon grasses, eating the whole plant; they get other plants to some extent also, and even feed upon insects. They can be seen about their burrows from sunup 'til sunset. Only the most severe winter weather can keep them from sticking their noses above ground.

PRAIRIE DOGS

Some small boys have planned to dig out a prairie dog. It would be an arduous task they would have before them. Mr. Osgood, of the biological survey, carefully excavated and measured a burrow. He found a perpendicular shaft going down into the ground to a depth of 15 feet. At the bottom this connected with a horizontal tunnel which ran slightly upward and continued for about nine feet. The end of this had been plugged with black earth brought from the surface. Running out laterally from this tunnel was a nest which was lined with grass. Along the side of the shaft quite near the surface was found a niche hollowed out, in which the animal could turn around or pass another. At the top, the earth had been thrown into a mound so as to prevent the washing of rain water into the burrow.

Prairie dogs, if taken young, make quite remarkable pets. They can be led to burrow in your back yard and come into the house to take their meals. At least, Mr. Warren recounts an experience of this kind which he had with a prairie dog.

How remarkable if the horrible rattle snake, the wise old owl and the sportive prairie dog really did form a corporation and live together. We wish the gullible philosophers who use this as an example for

NATURE NOTES

their teachings might have the truth of the case on their side. But cold science will have nothing to do with such teachings. It ably demonstrates that the only interest the rattlesnake has in the prairie dog's hole is to eat the babies which he finds within. It further claims that he is in terror of being buried alive by the irate adult dogs, for more than one case is on record where a mother, finding an intruder in her nest, has called together the clan to fill the burrow with earth and pack it down as tight as the surrounding prairie.

The burrowing owl also has a fondness for young prairie dog flesh, but finds the parents a match for her. She is also rather lazy and prefers using an abandoned prairie dog hole to building one for herself. So owls are sometimes seen sitting on top of abandoned prairie dog holes, and snakes are sometimes seen entering occupied nests; but all the way around these three are arch enemies and the only foundation for the fanciful triumvirate between them is boundless imagination.



A MAGPIE PERCHES

THE FRAGRANT PRIMROSE



IF YOU were to be a flower and could choose any color that you wished what would that color be? Most people will think of yellows and blues and reds and, perhaps, last of all of white. Yet the most conspicuous flowers blooming now are white. Amongst the shrubs see the gorgeous thimble-berries with their five large white petals; on the plains note the wavy white cups of the prickly poppies; and in the mountains adorning the barren gravel slides and the dry half-grassed slopes, we have all marveled at the fragrant primrose. The stemless evening primrose is the other name it is known by (*Pachylophus macroglottis*).

Four white hearts, joined by their points to the top of a long tube, which is set in the center of a rosette of woolly leaves; and you have part of its beauty. The four sepals which in most plants are green and inconspicuous, here alternate with the heart shaped petals and show a delicate touch of color on their reflexed points. They unite to form a long funnel-shaped tube which reaches down to the ground and terminates in the swelling which contains the growing seeds. Coming out of the center

NATURE NOTES

of this tube is a golden thread which extends an inch or more beyond the petals and is terminated by four branches like an unraveled rope. Surrounding this are eight stamens, golden threads which bear little teetering rods at their summits. All of these parts are hoary with a shaggy gauze of pollen.

The unopened buds are graceful spindles formed by the union of the rose-colored sepals. They are covered with a soft fuzz and are sometimes slightly burst, showing the delicate sheets of white rolled up within.

We humans have a way of encouraging color in young people, but think it a little out of place in the more mature. Many a girl who has been a rainbow dream of color in her soft party gowns, wears only simple white or quiet black in her grandmother days. Not so with our fragile primrose. In youth it wears the simple white, with just a touch of pink in its fluffy petticoats. But in old age the four icy heart-like petals glow with warmth. The flower dies in a beautiful blush of delicate rose shades.

You could not have wandered down our moonlit canons in pleasant company and in a receptive mood without having thrilled at the glory of these pale blossoms of night. For they are at their best after the sun has set. And if the light of the moon does not show them to you, you are aware of their

THE FRAGRANT PRIMROSE

presence by the waves of perfume which they throw into the blackness. They are courting their lovers the moths and care but little for us insects of the day.

Gather a few of them and attempt a bouquet. They will disappoint you. You had best leave them to adorn the barren gravel slide. Their wilting petals hanging over the edge of a glazed bowl, will only call up regrets that you have not left them to be admired by the next night wanderer and to serve as a banqueting place for the winged denizens of darkness.



WHITE-THROATED SWIFT



IF YOU would drink in a few moments of the keenest exultation, climb out from the trail onto one of the sheer cliffs topping the face of Mount Cutler and watch the white-throated swifts circling thru the air. Or, better yet, climb to the very highest pinnacle of the gateway rocks of the Garden of the Gods and watch them there in even larger numbers. The sun shines hot upon the bare red rock, but a stiff breeze fills your clothes and flutters your shirt. It lifts the hot hair from your forehead and fairly cuts into your nostrils with an invigorating zest. Miles upon miles of dusty plains roll out to the east; mountains ring you in upon the west, and thru the red rocks piled in confusion below you upon the parched brown hills, winds a dusty ribbon of road. Along this a few sluggish automobiles, the slow instruments of man, strain and crawl in a little blur of dust.

Overhead is the infinite blue, sailing great argosies of huge white cloud. And cutting thru this blue is a legion of knife-winged birds. Their ceaseless twitter is all about you. The flash of their lightning wings almost stuns you. Fearless, one

WHITE-THROATED SWIFT

passes within a few feet of you and you shrink back instinctively. On beyond the rocks in the distance you can see the tiny specks weaving back and forth—the great army that wages eternal war upon the insects of the air.

How often do scientific names prove the graveyard of romance! But our white-throated swift (*Aeronautes melanoleucus*) has escaped this dry labeling. What better name could they have given him than *aeronautes*, sailor of the air? There is no more graceful, no surer flyer amongst the birds. The speed of his flight is astonishing. It is so fast that an expert shot can seldom hit more than one bird out of a score of tries. As it sweeps past you there is a startling whirl of wings and the air rushes back from its flight. A flash of black is seen below you, then as it whirls perpendicularly up you get a flash of white on its under parts. Our bird is black all over except for this white on his chin and throat, which reaches as a line under his body and widens into two large patches on his flanks. The tiny spots above his eyes and the patches on his wings scarcely show in his impetuous flight.

The wings are long and blade-like. They carry him for hours at a time thru the air. His mouth gapes from one side of his face to the other. His food is caught on the wing and therein is the ex-

NATURE NOTES

planation of his continual circling. His life is on the wing. Look at his feet. They are almost useless and can scarcely bear his weight. They are only used for perching as he slips into his crevice home. He would as soon consent to scratch for worms as a sailor would think of plowing a corn field.

It is one of my dreams to some day find a nest of the swift. They are only placed in crevices and holes upon high inaccessible cliffs. Few people have seen them. They say that they are made of vegetable matter, shreds of bark and such things which are glued together with saliva. The bird has tremendous salivary glands and this mortar is used as well for cementing the nest to the hard rock. Nests made entirely of saliva by related swifts of the orient are considered great table delicacies by Chinamen. Perhaps some day, if I am lucky, I may find near one of the crevices in the Garden of the Gods one of these air built nests. And if I am real lucky I may see the sailor build it. And I will marvel then for it is told that they seize the woody material while on the wing, never stopping to alight and pick it up like a sparrow.

COTTONWOODS



IF ALL the cottonwoods in the state were to be pulled up by their roots, it would leave Colorado almost bald. These are our typical trees. They have their faults, to be sure, like the rest of us. They break easily during storms and are therefore considered dangerous. They drop their red catkins on the sidewalks in the spring, where they are tramped under foot and make great stained blotches. And when their seeds, tasseled with cotton, begin to blow, they stick in every crevice and corner, and cling to our clothes and get in our eyes. The air is filled with blowing cotton and our lawns are buried in a summer snow.

They have their faults but we doubt if the old-timers, the mule skimmers of the early days, or the drivers of the prairie schooners, ever thought of these as they pulled up their teams beneath their welcome shade. They were likewise a boon to our first western cities. Hardy, rapid growers, they solved the shade problem for our first settlers. The elm, and the ash, and the maple, could never have made a start without more irrigation, in our dry sandy soil and under our blazing sun. And if they

NATURE NOTES

could have done so, the early cities would have been fried to a crisp before these more civilized trees made more than a spot of shade on the sidewalks.

We have three very common cottonwoods in this region, in addition to the exotic species that have been introduced by the nurseryman. We shan't consider the Lombardy poplar,—the exclamation point, or the white poplar, with its leaves lined beneath with a white wool, but shall give our attention only to our native species, the common western cottonwood (*Populus occidentalis*), the lance-leaved cottonwood (*Populus acuminata*) and the narrow-leaved cottonwood (*Populus angustifolia*).

The commonest of these is the western cottonwood. It is the big fellow we usually see about our streets, with the gray, deeply-furrowed bark and the large triangular round-toothed leaves. These leaves are almost flat across their bases and sometimes measure five or six inches. The wood is very soft but is coming into use in the manufacture of packing boxes. It grows naturally along the banks of streams where its trunk sometimes reaches a diameter of over six feet.

The lance-leaved cottonwood is smaller and not so common. We see it sometimes along our streets, but more often in creek bottoms. It is easily recognized by its leaves, which are nearly twice as long

COTTONWOODS

as broad. They are rather wide at the base and taper into a sharp point at the apex. They are less deeply toothed on their margins.

The narrow-leaved cottonwood is usually mistaken for a willow. Its leaves are considerably more than twice as long as they are wide. They truly look like the leaf of a large tree willow. But the trunk of the tree with its deeply furrowed bark will prove it to be a cottonwood and a glance at the upper branches of the tall slender trees will further make certain its identification. For they are very light in color, almost white, while our tree willow has black branches and the smaller branchlets are a rich yellow. Along the banks of our lower mountain streams these narrow leaved cottonwoods grow in great clumps. They venture higher up into the mountains than any of their broader leaved brethren. Their slender irregular tops mat together to give a canopy of shade, and the slim trunks leaning about in haphazard angles present an irregular and graceful picture.

THE QUAKING ASPEN



HERE'S a shimmer and glimmer
of green on the hill
Where the leaves of the aspen trees
never are still."

Who does not love the aspen tree? Surely he cannot know it. He could never have slept under its branches and awakened in the night to hear the wind rippling thru its leaves like a stream of quiet water. He has never tramped thru valleys whose floors are mottled with the shade of its leaves and listened to the impetuous rattle as an imperceptible breeze played thru the grove. He could never have seen the sun twinkling and dancing on its leaves. He cannot have looked upon a hillside gorgeously painted with reds and gold by the artist fairies of autumn. For here in our mountains the color of the aspens is one of the chiefest glories of fall.

There is something about this tree, with its ever trembling leaves, that has appealed to the poetically inclined of all ages. We are told that the Russians refer to it as "the tree that trembles without a breath of wind." The pessimistic Gerarde compared its leaves to the tongues of the gentler sex "which seldom cease wagging." And it has been

THE QUAKING ASPEN

speculatively suggested that this is the tree upon which Judas Iscariot hanged himself after betraying his Master and that it was doomed "ever after to shudder and tremble" because of its connection with this dark event.

The quaking aspen, or quiver leaf, as it is sometimes called (*Populus tremuloides*) is truly a member of the cottonwood family. In the spring the same catkins hang from its branches, tho grayer and more hairy. The leaves are nearly round, about two inches across, and are borne on the end of a very long and much flattened leaf stem. This is so flexible that its two flat surfaces, together with the broad wing of the leaf, are able to respond to the tiniest breeze that dares attempt to pass them. The upper surface of the leaf is dark green, while the under surface shows a distinct tinge of yellow. As the leaves play in the wind it is this difference in color that gives the rippling, twinkling effect. The bark on the younger trees is a soft greenish yellow and covered with a white powder that rubs off easily. On the older trees, however, we get the dark furrowed bark characteristic of the cottonwoods. There are a few trees on the top of Cheyenne mountain that have trunks almost two feet in diameter. The wood is very soft. The chief use of the tree, aside from ornamental planting, is to serve as a

NATURE NOTES

first cover in recently burned areas. Here the easily grown aspens serve as nurse trees in nurturing and protecting the tiny conifers that will later grow and claim the whole territory for themselves.

Examine the next quaking aspen that you see. Study its leaf and find the cause of its trembling. Watch it in the spring as it goes thru the many stages of its development into full leaf. Watch it thru the seasons and learn to love it.



THE CHIPMUNKS



SIDE from the camp cook who wishes the whole pack exterminated, we all have a warm place in our hearts for the chipmunk. Often about our camps they can be so tamed as to eat from one's hand, or to crawl up and take a peanut from between one's lips. If you leave your picnic lunch spread out upon the ground for a few minutes, a little striped scamperer is apt to come and investigate during your absence. If he approves of your banquet he is apt to make off with some of it. If you object, he will scamper off just beyond your reach and cock his wise little head up at you very impudently, and he may bark a funny, squeaky little bark right in your face. Or else he will store his newly appropriated tidbit in his large cheek pouches and scamper off to his nest. Sometimes we see him sunning himself upon a rock, where he utters a series of chucks or barks (or shall we call them squeaks?) with an accompanying snap of the tail. Or we may see him harvesting the seeds from some plant or robbing a berry patch.

Many people are puzzled by the two very different-looking animals that are called chipmunks.

NATURE NOTES

One is larger than the other and has two conspicuous whitish stripes on either side of his body. The others seem to have the whole back lined with parallel stripes. Now which is the chipmunk? And what is the other one? There is a lot of popular misinformation extant on the subject and a lot of wild guessing has been done.

The big fellow is not a chipmunk at all, properly speaking, though he is sometimes called the "big chipmunk." He is more correctly known as Say's ground squirrel (*Callospermophilus lateralis*) after the famous explorer and naturalist. His length is about eleven inches; of course, counting the tail. The general ground color is a salt-and-pepper mixture of black and white and rufous hairs. A rather broad, well-marked, though dull, white stripe runs along either side of his back from his shoulder to his hip. Just inside of these is a pair of rather obscure black stripes, while just outside of them is a very well-marked pair of black stripes. A yellowish white ring around each eye completes the markings.

The true chipmunks are smaller, between eight and nine inches in length. They have four white stripes alternating with five black stripes on the back; the central black stripe running onto the head, well between the ears, and the white stripes on either side of it, being soiled with gray. The gen-

THE CHIPMUNKS

eral ground tone is browner or more reddish . A patch of this extends down the center of the face and is flanked on either side by three short black stripes, with two white stripes separating them from each other. Stripes, stripes, stripes! May I never have to describe a barber pole. In the center of each of these combinations is located the eye.

Of the eight varieties of chipmunk found in the state, we have two represented here. These look almost alike, and it takes considerable practice before one can feel at all certain of recognizing them. They are the Colorado chipmunk (*Eutamias quadrivittatus*) and the busy chipmunk (*Eutamias amoenus operarius*.)

The Colorado chipmunk is larger (always over eight and one-quarter inches) and is more brightly colored than the other. It is seldom found above 9,000 feet in elevation, and is not so common as the smaller form. It is most common in the yellow pine formation of our lower mountains.

The busy chipmunk is more abundant than the former. With its smaller size it has a proportionately longer tail. It is often tinged with gray on the rump where the other is brightly colored. It ranges from the base of our foothills to above timber line, having the highest range of any chipmunk in the state.

THE HUMMINGBIRD



EVERYBODY knows a hummingbird when he sees one. There is nothing in creation quite like these little animated bullets, unless it be some of the larger moths. If one forces himself upon your attention, your ambition may be aroused to find out just which hummingbird he is. If you look for him in a general bird book, confusion awaits you. You can as easily give an accurate description of a streak of lightning as to make a careful observation of this whizzing hummer.

We have four different species of hummingbirds listed for this state. As the males are colored somewhat differently from the females, it really seems quite a task to make sure of an identification. In reality it is easy. Ninety-nine chances out of a hundred it is a broad-tailed hummingbird (*Selasphorus platycercus*). Take a chance and call it that, unless you are positive to the contrary, for this is by far our commonest hummer—the others are rarely seen.

If you have an opportunity to examine a mounted specimen, be sure to take it. In the field we only see flashes of color, unless the bird poises in the throat of a flower, and even then he flicks his

THE HUMMINGBIRD

tail so rapidly and his wings make such a blur that it is impossible to see his colors well. All of his upper parts are a metallic-green, except his tail and wings. Here we see a remarkable tinge of purplish-black, and on the tail we also get a touch of chestnut. The under parts are a grayish white, shading into a golden green on the sides. But his glory is his necktie. Under his chin is a peculiar group of feathers which are so conspicuous and prominent as to have a special name, the gorget. This is iridescent and flashes different shades of metallic crimson and purplish-red.

The good wife, of course, has no necktie. Her throat is spotted with red and brown. Her tail shows more chestnut and has a vain little touch showing in the band of white with which it is tipped.

At this time of year, if you look often enough and your luck is good, you may see Mr. Hummer performing for the delight of his little lady. It is a phenomenal performance. With a sibilant rush of his wings he darts straight into the air and poises motionless, except for the blur of his wings, at a height of about 50 feet. Suddenly he darts to the earth as if shot from a gun. Straight down—but it is not a leisurely fall; it has all the speed of a bullet and something of the same singing whistle. You hold your breath expecting to see him smashed to

bits. A foot from the earth he stops with a jolt, there is a flash of crimson as his gorget catches the sun, and zipp! he is up 50 feet in the air, poising again for another dash to the earth.

To describe the feat takes time. But time does not enter in the real performance—it is simply “zipp, zipp” and he is back in place overhead. And before you can catch your breath he has done it again. The little lady all this time is indifferently dipping into flowers and paying no attention whatever to her silly lover. She is as oblivious of his presence as was Tom Sawyer’s young love when he turned hand springs in the street before her home.

The hummingbirds are moving upstairs now. They are about our houses in May, but as the summer advances most of them move up into the mountains. Here they take their toll from the mountain flowers and feed upon the insects which visit them. Some authorities claim that they raise successive broods at different elevations during the season. If this is true, it should be an additional incentive for us to keep our eyes open for the exquisite little nest. A tiny cup it is, fashioned out of cotton from the poplars and willows, saddled on some low branch and lined with moss or bark, which is sealed with silk from a spider’s web.

THE YELLOW PINE



THE MOON, hiding behind the ridge, throws a silver glamour on a few sleepy clouds; set black against this weird light is a straight shaft flanked with gnarling branches tufted with great blotches. Topping the opposite hill, several of these tree goblins are silhouetted against the star-speckled sky. As the wind slowly sways them, the imagination can see crouching animals, bizarre figures, or perhaps the death-laden platforms of an Indian burial tree. This gloriously irregular monarch of the mountains is at his best when silhouetted against the changing skies of night.

But as dawn creeps over the hill, he dresses for the day. And what a rugged coat he wears! The huge blotches become great brushes of long green needles. The morning light glints through them in shining streaks that leave a penciled shadow on the rocks. In the center of each brush are enthroned the baby needles, the pin feathers of the pine, that are fresh green and scarce yet pulled out of their swaddling clothes. Clustered here are also to be found the tiny male cones, little brown nubbins, of many

NATURE NOTES

overlapping scales that shed a cloud of pollen when you touch them. They will soon drop off, when their precious golden wares are sold to the wind, who, in turn, will retail them to the prickled cones that manufacture seeds.

These larger female cones can be seen tightly clinging to the branches surrounded by a bodyguard of long needles. They will take a couple of years to mature, when the brown scales will spread apart, and from each the wind will carry a pair of little winged seeds. The old wooden cone, its work done, will then drop from the branch, leaving its footprint in the form of a few basal scales that cling in a little blackening rosette.

This rugged tree is the western yellow pine (*Pinus scopulorum*), and is our commonest and most picturesque evergreen. It goes by a variety of other common names, such as rock pine, bull pine, red pine, long-leaved pine, western pitch pine and Gambier Parry's pine. But, locally, we usually just call it the yellow pine. The black forest covering the divide some 40 miles north of the city, is almost entirely of yellow pine; we find it standing as the poetic "lone pine tree" on barren foothills or mesas; it covers the south slopes of our mountains and climbs up to an elevation of over 10,000 feet on our higher

THE YELLOW PINE

peaks. It is easily our commonest pine; and, if you know but one, let it be this.

The true pines may be distinguished from all other cone-bearing trees by the fact that their needles always occur in clusters of two to five, which are held together at the base by a little cuplike sheath of scales. Pull off one of the needles and the others in the sheath will come off with it. Hold them together and you find the bundle is perfectly round; now cut them across and you see that each forms a slice of pie that fits in with the others to make the circle complete.

You may always recognize the yellow pine by the fact that its needles are in clusters of two, or less commonly of three. They are over three inches long, often many times longer. They remain for three years, then drop off, leaving tufts of younger needles on the ends of the branches. The tree is our largest and most rugged pine; its red bark is furrowed with black and shaded with gray. The cone is also characteristic. It is large and woody, and on each cone scale will be found a sharp recurved prickle.

LODGEPOLE AND PINON



HAT the apple is among the fruits, what the oak is among the broad-leaved trees, the pines are among the conifers." So true is this that any cone-bearing tree is indiscriminately called a pine. How few people really know our pines! A thoroughgoing acquaintance with these trees puts you at home in the mountains, makes you a real nature lover; it is the initiation ritual of outdoor happiness. The rules for distinguishing our trees are really very simple if one will but take time to put them in mind.

A common name knowledge is often dangerous, like a "little learning," and yet this is as much as most people desire. Out of 80 or more distinct species of pine in the world, there are perhaps a dozen names which are used for all of them. "Hard pine" includes about half, and "soft pine" embraces the remainder. A whole army answers to the name "pitch pine." There are dozens of distinct "yellow pines," and a whole flock of "jack pines," "bull pines," and many others. Confusion may only be avoided by a knowledge of the scientific names or by a discriminating use of common names—a use

LODGEPOLE AND PINON

based upon some good botanic authority, and not upon, "Why! so-and-so calls it that."

There are five distinct species of pine listed for Colorado. We have them all in the Pikes Peak region. Two of them, have their needles in bundles of five, the remaining three have them in bunches of two or of three. Of the latter, the western yellow pine is the commonest, the pinon pine next most common, and the lodgepole comparatively rare.

There are a few isolated specimens of lodgepole pine above Manitou. They become more common as we go north of the region, up Ute Pass. Most of our readers will probably never find a specimen and therefore will not have to strain their memories with its characteristics. The lodgepole (*Pinus Murrayana*) is best described by its name. A lodgepole a few inches in diameter, to delight the heart of an old Indian, rises straight into the air to a height of twenty to ninety feet. On top of this is an umbrella-like cluster of branches hiding from bears in the top of the tree.

The needles are clustered in twos or threes as in the yellow pine and the cone has prickles. But no one could confuse these small needles, under three inches in length, with our long-leaved yellow pine. The cones, too, are smaller and hold tenaciously to their seeds. It requires fire in most cases to pry

NATURE NOTES

the scales apart. The general lodgepole character, the smaller needles and the closed cone clinging tightly to the branches, are enough to mark this tree.

Little old men, pudgy and fat, are the pinon or nut pines. (*Pinus edulis*.) They squat around on our mesas and lower hills. Their branches are gnarled and twisted like the veins on an old man's hand. You will find them in arid situations at the lower elevations. They seldom go up into the mountains, it seems to pinch their wind. And anyway why not be contented just to sit? To be sure, some of the young bucks can be found even above the half-way house, but if you are looking for a venerable old specimen, direct your search to the hills back of the Garden of the Gods.

This round topped tree is never twenty feet high, tho it often measures all of that around the waist. Its leaves are two in a bundle and less than two inches long. The cone is small and round with scales distinctly thickened at the ends. They are not armed with prickles. In the books they always contain large edible seeds, the pinon nuts of commerce. But on our barren hills we find that the meat of each nut is shriveled to almost nothing.

PINES OF THE HIGH MOUNTAINS



EACHING far up onto our highest mountains are two splendid pines. They can be recognized by the fact that their needles occur in bundles of five. This fact completely separates them from the other three pines. To separate them from each other look at the cone. If it has prickles the tree is a fox-tail pine (*Pinus aristata*). If it is a long cone without prickles it is the Rocky mountain white pine (*Pinus flexilis*).

Altho it appears in our lower canons, the Rocky mountain white pine is typical of the wind-swept ridges of our higher mountains. You will see it on any walk in the mountains, but you will see it at its best on some high gravel-floored ridge where its long, tough branches have gouged out berths in the hillside by the sweeping action of the wind. The white pine holds its needles for five or six years. This means that the branchlets will be well covered for a considerable distance from their tips. They are pleasant to pull thru the hand, they are such long, fur-like fellows. The needles are less than three inches long. The branches are so flexible that it is possible to tie a knot without breaking them.

NATURE NOTES

They defy the wind who swings them about in fury, and they swing back again unharmed. The white branches, long and tough, contrast with the short, dark-green needles.

The cone is a beauty. It is five or six inches long and very slender. In some parts of the country they are over a foot long. They are a greenish yellow and the scales are somewhat beaked at the apex. They do not bear spines or prickles.

When a slope is covered with pines and spruce they all seem to reach upwards; they seem to strain toward the heights. The foxtail is in the vanguard of the heavenly march. On its hands and knees it crawls prostrate at the upper limit of tree growth and is seldom seen more than a thousand feet below timberline. On an ordinary hike you will see nothing of it, but if you ascend Pikes Peak or Mt. Baldy you will find it the last tree to call out "Excelsior!" to you.

Because of the great elevation at which it grows, it seldom attains a height of over forty feet. The short needles in bunches of fives completely clothe the branches like the brush of a fox. The cones are dark in color and very pitchy. The needles also show a speckling of resin.

What character they show, from the great brushes of the yellow pine, to the double-jointed

PINES OF THE HIGH MOUNTAINS

branches of his contortionist brother, the white pine, or the flattened balloon of the lodge pole held to earth by a slender cord of trunk! Topping a pile of frost riven boulders set in unmelting snow is the stubby tough trunk of a foxtail, bent from the wind and yet doggedly refusing to break. Reaching out from its leeward side are three or four desperate branches that refuse to arbitrate with the wind. And there it stands thru the hurricanes of winter and the blistering heat of the summer's untempered sun. What a contrast it offers to little old Mr. Pinon, squatting on the mesa in a thicket of scrub oak!



THE FIRS



H TANNENBAUM! Oh Tannebaum!" we used to sing in our German classes. We memorized laudatory verses to the fir. Every Christmas story was wreathed with branches of the fir and the hero went to the hills and brought home a wonderfully straight specimen which he had watched grow from boyhood. Honest, now—if any of us had been that hero and simply had to bring home a fir tree, is there any assurance that it might not have been a fig tree? Is it not too bad to teach children romance and legendary beauty attached to a tree, a bird or a flower, and then let the child go thru life without being able to recognize this object when he meets it on his walks?

Our Colorado firs are easy to recognize. If the conifer has its needles attached individually to the branches (that is, without sheaths, as in the pines) and each needle is soft and distinctly flattened, it is a fir. The spruces have their needles attached in the same manner, but they are four angled and are very stiff and sharp.

We only have one true fir in our region. It is the beautiful tree we usually find in shaded places,

THE FIRS

with a foliage that is white-green to silvery white. It is so beautiful that it is widely planted in Europe as an ornamental tree. Its branches are very distinctly flattened, giving a terraced or layered appearance to the tree. Its branches are mainly opposite, making them very even and symmetrical. The needles are quite long, nearly two inches, and are very flat. They have a way of curling around the branchlets and pointing straight up. This makes the upper side of the branch as smooth as a lawn. The under side simply shows the skeleton upon which the lawn is laid.

The cones can be seen standing perfectly erect upon the topmost branches. At first they are green, silver dusted, and later turn to glorious shades of purple. They are indeed a rare sight, except that they are so common. They are rare in the sense that so few people observe them; but when people do finally notice a tree crowned with them they gasp as if they had seen a peacock's tail on an English sparrow. When the seeds within these beautiful cones are ripe, the scales fall away from the central stalk or axis of the cone and the seeds are liberated. You will never find a ripe cone of the white fir, but in the tops of the trees you will see these bare stalks standing thru the winter like candles on a Christmas tree.

NATURE NOTES

The white fir (*Abies concolor*) belongs to the same genus as the balsam. We have one of the several varieties of balsam fir in Colorado, but not in the Pikes Peak region. The white fir, however, is so nearly related to the balsams that it may be treated as tho it were one. This means it will be a favorite for stuffing pillows. The pillow maker will carefully strip branch after branch of their needles, long and soft; and months, even years, afterwards, when she drops her tired head upon this pillow—a head fatigued by the noises of a busy city—she will find the pungent odor of the fir carrying her back to the shaded slopes of our Colorado Rockies.



THE CHRISTMAS TREE



ABY leads the procession and daddy brings up the rear; the door is thrown open and they gasp in unison as a myriad of tiny flames twinkle from the tree in the corner. They stand and admire but a moment, and then charge down upon it

and the many toys, and books, and other presents piled up at its base. The floor becomes strewn with red and white paper and many colored ribbons. In the midst of their joyous uproar let us look at this tree around which the American family is doing homage. Beneath those twinkling candles and gay festoons of popcorn and cranberries and tinsel and angels and all that is beautiful, is a glorious framework of green. The needles are soft and clothe the branches in many drooping tassels. A straight shaft in the center bears this marvelous pyramid.

And what is this tree? It is usually a Douglas fir. It does not show well in the twinkle of artificial lights. If you would see it at its best you must travel northward to the Pacific coast and there find great forests of these trees, with their spires reaching up into the black dome formed by their matted branches to a height of 300 feet. So tightly would these branches interwine as to leave the forest floor

NATURE NOTES

beneath in the perpetual half light of dawn. There it is known as the Oregon pine, but it is still our little Christmas tree, altho it is cut for the spars of ships and the heavy timbers of bridges. There are no more valuable forests in the world today than these huge stands of Douglas fir.

But why talk of Christmas or of the Pacific coast when we live inland and are in the middle of the hottest month of the year? Find one of these firs standing on the edge of a cliff with nothing but pale horizon and cumulus clouds beyond. It is a slender tapering pyramid. The branches all droop from the central shaft and then dip up gracefully again at their tips. They have a heavy fringe of soft-needed branchlets hanging from them. There is no tree so graceful as this. The tips of the new branches are often silvery. Sometimes the whole tree is silvery, when it is unhesitatingly called a blue spruce or a silver spruce. Color unfortunately has nothing to do with names.

The needles are flat, but not so flat nor so long as on the white fir. They completely surround the branchlets giving a drooping, rather than a flat, effect. The white fir and both of our spruces have all their cones in the very tip-top of the tree. The Douglas fir usually has cones hanging from all of its branches. These cones are not limited to simple



PINES AT TWILIGHT

THE CHRISTMAS TREE

overlapping scales, but have protruding from behind each scale a long bract which is divided into three sharp tongues. This gives to the cones a fringy appearance. These cones with their three-pointed bracts, together with the flatness of the needles, are enough to identify this tree.

But it is not really a fir. Its scientific name is *Pseudotsuga mucronata*. This generic name is a terrible combination of the Greek prefix "pseudo," meaning false, with the Japanese root "tsuga," meaning hemlock. So it is midway between the firs and hemlocks, but not really belonging to either. Many of its general characteristics seem to make it a spruce and perhaps its commonest common name is Douglas spruce. But it has about sixteen common names altogether. And since it is easier to remember that firs have flat needles and spruces have square needles, we have chosen to call it Douglas fir. This name is used extensively in the United States forest service and is used by many botanical authorities. So let's all call it Douglas fir and make it easier for the beginner to learn.

And do get acquainted with it. It, together with the yellow pine, is our commonest conifer. And there is none to equal it in beauty.

THE SPRUCES



HE spruces are handsome fellows, but they were never meant for cuddling. A bed made of spruce boughs would draw joyous groans from the most confirmed penitente. The needles are four-angled, very stiff and rigid, and the tip is ground to a fine point. The branchlets are closely ranked with these miniature spears, and it is a reckless climber that will make his way to the top of the tree to gather the beautiful basket of cones clustering there. The squirrels can manage it, but they haven't bare wrists sticking up out of coat sleeves, or soft cheeks that wince at these sharp points.

But who wishes to be affectionate with a spruce? How much more handsome he is at a distance! What is more beautiful than a spruce-grown hillside, where they "set their spires like serried ranks of spearmen," tall and straight and coldly distant? The blue spires of the spruce reach up over 100 feet in some of our high mountain ravines. So slender, so straight and so tall they have a sinewy dignity that is all their own.

How different do the little baby spruces grow-ing in our yards appear! Our commonest conifer

THE SPRUCES

used for ornamental planting is the blue spruce (*Picea pungens*), the state tree of Colorado. Our garden specimens are usually silvery blue pyramids that stand ten to twenty feet high. Examine the needles and you will find them characteristic. Run the back of your bare hand along a branch. Break a few needles between your fingers and get the pungent odor of the spruce. In the mountains they grow much taller and there we are more apt to see the long cones clustered in the top of the trees. We shall begin finding this tree at about 7,000 feet in elevation, shall continue to see them on our walks until we reach an elevation of 10,000 feet and shall find a few specimens, perhaps, beyond this extreme.

First appearing at a little over 8,000 feet, the Englemann spruce (*Picea Englemanni*) grows on up to timberline. Here we find it crawling around with the foxtail pines, forming dense mats and showing many distorted forms. There is something devout and inspired in the tall, solemn spruces growing lower, but here they throw themselves prostrate upon their faces before the great altar,—the shrine of the blue sky. These trees will stand any amount of snow and seem to glory in the cold, but let a fire come near them—their thin bark proves no protection, and they are quickly killed.

NATURE NOTES

Anyone could tell a good typical blue spruce from a good typical Englemann spruce if he saw them side by side, but occasionally their characters come so close together that they are very difficult to distinguish. And when you find a tree that seems to be “ ’alf and ’alf,” you are simply up against it. Here are the rules for telling them apart, but in some cases it requires a subliminal intuition—a sort of sixth sense—to apply them.

Spread the needles on a terminal branchlet and examine the branchlet carefully; if it is shiny and smooth, it is the blue spruce; if it is covered with a very fine, almost invisible down, it is the Englemann spruce. The cones of the blue spruce are between two and three inches in length while the cones of the Englemann are under two inches long. The leaves of the Englemann are only moderately stiff and sharp, while those of the blue spruce are very stiff and decidedly sharp. To adopt the rule of the old forester: “Run into the tree; if it sticks you so you swear a blue streak, it is the blue spruce; if it don’t, it ain’t.”

JUNIPERS OR CEDARS



ND have you any junipers?" she asked. I pointed to a patch of ground juniper forming a dense mat under the branches of a white pine. She made a dive for the patch and plunked herself fairly down in the middle of the prickly mass. She bounced up and down as she joyously exclaimed, "Now I can say that I, too, have sat 'neath the juniper tree!" Then, in spite of her elation, a pained expression appeared on her face as she cautiously extricated herself from the relentless prickles. As she marched away we didn't have the heart to tell her that it was "on" and not "'neath" the juniper tree that she had been sitiing.

This dwarf, or mountain, or low juniper (*Juniperus sibirica*) never reaches the stature of a tree in our mountains. It is sometimes called the ground pine since it forms dense patches on the ground. Its leaves occur in threes and are about a half-inch long. They are grooved on the upper surface and distinctly keeled on the lower. Down the center of the groove is a strip of whitish powder. These needles are very sharp and have scant sympathy for any Buster Brown socks that attempt to walk thru them.

NATURE NOTES

The tiny cones are made up of fleshy scales that have grown together and formed purple berries. This is characteristic of all the junipers and will separate them from the true cone bearers. It takes three years for them to mature—but what would you expect of a lazy tree like this that sprawls around on the ground without energy enough to stand on its feet!

We have three junipers in the region, the lazy one just discussed and two tree forms. Both of the latter have their needles so shortened as to be mere overlapping scales. There are no true needles to be found on them. All three have berries instead of cones. Our most beautiful juniper is the Rocky Mountain juniper, sometimes called the red cedar (*Juniperus scopulorum*.) Found most commonly in the foothills, it is sometimes seen, however, at considerable elevations in the mountains. It is sometimes a graceful pencil of green, at others it is larger at the base, but always do we get the sharp pointed tip. It is often flushed with a bluish white powder making the tree a pale grayish green. Its branches are fairly graceful and its brushes give an air of lightness. The powdered blue berries have two, and sometimes more, hard seeds within them.

The one seeded juniper (*Juniperus monosperma*) seldom ventures into the mountains. It is typi-

JUNIPERS OR CEDARS

cal of the dry mesas and lower foothills. It is built on the same design as the preceding, but is more clumsy. The brushes give less of a suggestion of grace, as they are fairly stocky. The tree is usually round topped and seldom shows the slender form of the preceding. The color, perhaps, is most different. It is a yellowish green which is quite distinct from the gray green of the Rocky Mountain juniper. The berry, as the name indicates, seldom has more than one seed and usually averages a trifle larger than the other. It is over a fifth of an inch in diameter, while the red cedar berries measure less than this.

Against the red cliffs of the Garden of the Gods their greens show in beautiful contrast. They are the dominant decorative element of these arid hills, and, together with pinons, give to them an atmosphere of ages long past.



REVIEW OF PINES



THESE pines are so important, and they give us so much pleasure when we have a thoro acquaintance with them, that it will pay us well to pass the whole array by in revue. Examine any tree in the army, apply these few simple rules, and you will know its name.

If the needles are in clusters, it will be a pine. If they are not clustered, and are flattened, it will be a fir. If they are four-angled and sharp and stiff, it will be a spruce. If the needles are reduced to mere overlapping scales or short awns, and the cones are replaced by little blue berries, it will be a juniper.

THE PINES

If the needles are in clusters of two or three, it will be either the yellow, lodgepole or pinon pine. If the cone has no prickles, and the tree is small, it is the pinon pine (*Pinus edulis*.) If the cones have prickles, it can be either of the other two—but the lodgepole (*Pinus Murrayana*) has such a typical slender stalk tufted with a flat plate of branches on top, and the needles are so much shorter and the cones smaller, that it will not be confused with our

REVIEW OF PINES

very common yellow pine (*Pinus scopulorum*), which has needles over three inches long and large wooden cones.

If the needles are in clusters of five, it will be either the fox-tail pine or the Rocky Mountain white pine. It is the fox-tail (*Pinus aristata*) if the cone has long, slender prickles. It is the white (*Pinus flexilis*) if the long, greenish cone has no prickles on its scales.

THE FIRS

If our flat-needed tree has branches that are also very flat and the long needles all curl around and carpet the upper side of the branches, and the cones stand erect only in the tops of the tree where the mature scales fall away and leave little candles of the axes, it is the white fir (*Abies concolor*). If, on the other hand, the branches are graceful and drooping and the needles smaller, and on almost any branch of the tree can be found little cones fringed with three-lobed bracts that extend out from the scales, it will be the Douglas fir (*Pseudotsuga mucronata*), which, after all, is not a true fir.

THE SPRUCES

If the four-angled needles of the spruce are only moderately stiff and sharp, and the terminal branchlets are covered with a very fine fuzz, it is the Englemann spruce (*Picea Englemanni*). This

NATURE NOTES

can be further confirmed by the cones in the top of the tree, which are under two inches in length. If the needles are very stiff and sharp, the branchlets shiny and the cones over two inches in length, it will be our Colorado blue spruce (*Picea pungens*).

THE JUNIPERS

If our juniper is prostrate on the ground, and has grooved needles about a half-inch long, it is the mountain or ground juniper (*Juniperus sibirica*). If it is a grayish green tree, with graceful branches, covered with tiny, overlapping scales, and its blue berries have two or more seeds within, it is the Rocky Mountain juniper or red cedar (*Juniperus scopulorum*). If the color is a light yellowish green, on the other hand, and the branches are more clumpy and the berry has but one seed, it is the one-seeded juniper (*Juniperus monosperma*).

Now, isn't that all easy? We'll never be mixed up about an evergreen again.

GRAY HEADED JUNCO.



HERE is a wild little trail that flutters around the north slope of Cameron's Cone. Up and down it carries you with no regard whatever for your wind. It lures you down into some shaded dell, where it is grown with cushiony mosses and then makes you climb up on the other side over a barren slope of shifting gravel. Out upon wind swept ridges it wanders, and winds in and out through huge weather-chiselled boulders. It spreads out before you magnificent views of canon and plain, or leads you to some ridged point where you can look across deep cut gullies and piled up hills to behold the full sweep of the naked peak. Then it will slip down an easy slope to the purling creek below and hem you in with tangled shrubs and the perpetual shadows of the spruces.

I was hurrying through one of the wooded sections of the trail with night racing close at my heels. As I swung around a jutting boulder, a little bird fluttered from under my feet and alighted a short distance up the slope. The slope was green with mosses, and scattered with large wintergreen leaves and shade loving flowers. In the deepening twilight

NATURE NOTES

it seemed a snatch of fairy land hidden there under the shade of the solemn trees. The little bird sat motionless and I stepped nearer; she fluttered uneasily. "Hum!" I mused, "So it's a nest is it, little lady, let's just peek around and see where you have it hidden." And I dropped to my knees.

Many a tree had fallen onto that slope and through the long process of decay had melted down under the moss into a rich black loam. Close before me a single limb was holding itself above the mossy carpet. It made hardly any angle with the slope and was almost hidden by the shaggy moss which had grown up over it and tried to bear it down into the rich humus below. Its crumbly rich brown was harmoniously blended with the dark green of the slope. A little spray of pink merten-sias swayed over it and the creamy blossoms of the dwarfed cornel grew close by. I cautiously crawled up to it and peeped beneath. There was hidden the dearest bird bungalow that it has ever been my pleasure to look upon.

Deep under the angle of this aged branch was a little cup-like nest fashioned of grasses deftly woven together. In the center of its tiny cup were four delicate eggs, playfully blotched and spotted by the fairies of the mountain slope. The little bird fluttered nearer and chirped inquiringly. The

GRAY HEADED JUNCO

fearless little mother, the warm nest with its exquisite freight, the damp mossy slope and the deepening shadows all pressed in upon me and left one of the half dozen vivid pictures of my memory. I slowly drew back without frightening the brave mother and left her to keep her watch over her treasure through the fast approaching night.

A sonnet of life! It sang itself in rythm to my swinging steps as I hurried on for the cabin. As twilight came over the mountains on the following night, the charm returned and I could not resist it. I hurried through supper and took to my queer little trail again. It was two miles to my new found nest but I could not stay away. As I cautiously approached the spot my heart climbed up into my throat. I did not want to startle the little mother. I wanted to see her on the nest. Quietly I drew up to it, ever so cautiously I leaned over to look beneath, and there I found nothing but lonesomeness. The nest was deserted. It was torn roughly and three of the tiny eggs were broken. Huge black ants were crawling around in the wreckage feasting on the broken eggs. I have hated black ants ever since that night.

All about me was silence, there was no voice to tell me what had happened. It will ever remain one of the mysteries of the wooded mountain slope.

NATURE NOTES

Did some four-footed vandal pounce down upon her and bear her away, leaving the broken eggs for the jackal ants to feast upon? Did the little mother escape? I am afraid not. There was evidence of combat there and probably the brave little bird gave her life in that struggle to save her home.



THE MOUNTAIN RAT



EVERYBODY loves a rat, if you don't care what you say. The malicious insolence of his dull, black eyes, his stiff whiskers, his stained teeth, and the delightful effluvia of his rat perfume, all unite to make an irresistible appeal to a person of aesthetic sensibilities; an appeal to kill the brute. Night marauder, trader in filth, author of hideous squeakings, it is your praises I would sing! Not your smooth-tailed relative that has spread all over the civilized world from Norway, and is now amusing himself by distributing the bubonic plague amongst his best human friends, but you of our mountains, with the bushy tail, delight to the camper and beautifier of our rocky places. Your piles of wood, heaped at the entrance of a crevice, with streakings of ill-smelling brown stain on all the surrounding rocks, are features of our mountain landscape that we could well do without. In fact, we could well do without everything that is connected with you, but in so doing we should lose an animal of considerable interest.

Have you ever (not you, Rat! I am thru addressing you personally and now refer to the read-

NATURE NOTES

er), have you ever had the delightful experience of being awakened in the darkness of a mountain cabin by the army maneuvers of a single rat? Gideon and his band, with their pitchers and trumpets, were not in it with this lone rat. He can run back and forth so fast, on the ceiling overhead, that you would swear there were at least three hundred and twenty-two of him; and give him just one assistant noise maker and the horde that followed the Pied Piper out of Hamlin town could not have made more noise with "their shrieking and squeaking, in fifty different sharps and flats." Have you ever awakened, I repeat, to hear the pans on the stove rattling, as this miniature elephant gamboled about, and then have him suddenly discover that you were awake and make a dash for the hole close to your pillow? It's a grand feeling as he lands in the middle of your features and disappears thru the hole. Once is enough. Next time he leaves the cabin he leaves disguised as a corpse. My friend made up into an exceptionally fine-looking rat corpse.

Scientists have named him *Neotoma cinerea orolestes*. *Neotoma* refers to the cutting quality of his teeth. *Cinerea* means ashy. And *orolestes* is translated "mountain robber." He will steal anything he can carry away. Shiny silverware, articles of clothing, and anything that he can place in his



THE BOTTOMLESS PIT

/

THE MOUNTAIN RAT

family museum suit him to a "T". Not that he wants them; oh, no! He is just playing a little game, teasing you and amusing the children. Miners report cases of rats carrying away sticks of dynamite. They would prove a rare pacifier for a baby rat cutting his teeth. The whole family would probably have a high time of it.

Because of this kleptomaniacal tendency he is called by many people the pack rat. Others call him trade rat, for he has a habit of leaving some useless article in exchange for what he swipes. Perhaps, if he has a stick of wood to go into the construction of his nest, and meets up with a nice, shiny spoon, he simply drops the stick and takes the spoon, making the loser think he tried to trade the fuel for the bean shovel. We absolutely refuse to attribute any good qualities to our robber friend. And we have a few other bad ones which we hardly dare to divulge.

SHOOTING STARS



E ALL know the shooting star, but it would be very unfair to omit this beauty from any list of our prettiest flowers. It started to bloom way back in May and still its blossoms are adding a touch of color to the marshy beds along some of our high mountain streamlets. If you would find the shooting stars at their best, hunt for a grassy patch, which is soft and boggy under foot, in a little widening of the bank of one of our purling mountain streams. A little stream a foot or two wide, which is sunk between its sedge grown banks and winds back and forth thru a narrow field of soggy green, is best. Hanging out over the silvery water you will find our beauties. They are growing on a leafless stem, almost a foot high, which has several short branchlets curving from the end. From each of these hangs a shooting star.

Five purplish-pink petals are united at the base into a little ring and then flare back up the little flower stem like the feathers in the head dress of an Indian. Some people call them Indian chiefs. Pointing downward, and protruding from the ring, are five black stamens which are grown into a cone-like beak. From the center of these protrudes the

SHOOTING STARS

pistil. The flower is built quite a little on the lines of the cyclamen.

Pluck one of the flowers and examine it carefully. What delicacy of coloring is to be seen. The purplish-pink, or magenta, or, (well, leave it to the women; what should a mere man, with his experience limited to serges and blacks and tweeds, know about colors anyway!) this exquisite color shades into a rich yellow where the bases of the petals form the ring. In this yellow is traced a scalloped line of pink, which surrounds the central cone.

Let your fancy play about this strange flower and try to interpret to you its meaning. Reason has already told you how the recurved petals prevent the entrance of crawling insects to the treasure boxes of the flower, the chests of golden pollen; how the bright colored petals attract the flying insects, the flower's best friends, and give to them a landing place; it has told you how the sweets that tempt the bee are hidden down in the center of that black cone so the friendly marauder, will he, nill he, must carry away some pollen with him and give it to the waiting stigma of another flower. But forget reason, and give fancy full reign.

Centuries ago, old Linnaeus, the father of botany, let his fancy play around a blossom such as this and in it he saw a council of Grecian divinities, seat-

NATURE NOTES

ed in a circle around a miniature Mount Olympus. He gave to the flower as its scientific name, the Greek compound, *dodecatheon*, *dodekas* meaning twelve and *theon* meaning gods. But, as we count the pink scallops around the little black peak we find only ten. Thank Heaven! Linnaeus was human and made mistakes like the rest of us.

Our shooting star (*Dodecatheon radicum*) has a variety of common names. It is often called the American cowslip, tho it has no resemblance to its yellow brother across the seas. Rooster heads and Indian chiefs are both very descriptive; and there are people who will proudly tell you that the flower's correct name is pride-of-Ohio. But those of us who have worshipped these blossoms along the damp bosks and shaded banks of our Colorado mountains will never choose for it a name like that.

THE BLUEBIRD



ARLY? Yes! But Spring's here. Bo! Let's beat it! I saw a bluebird today," says the tramp, who has worked all winter at the logging camp. And out upon the road he goes with "a sort of a general plan of hitting no one place

twice." Haven't you felt the same thrill upon seeing the first bluebird of spring? After the long house-bound winter you go out upon the snow-flecked hills to seek the first anemone. And there you hear a plaintive little note, and a pair of bluebirds fly before you. What a flash of color, what a thrill! All that is beautiful seems bound up in those little spots of blue. Happiness—Maeterlinck symbolized them. And do they not seem to hold the essence of illusive happiness, haven't they an appeal that draws you from the slavery of the winter life and makes you long to become a part of the sky, or the wind? Little crystals of Heaven, patches of sky, they seem to have something that is not of this earth.

The scientist arranges his species in an ascending evolutionary series and at the apex of his series are to be found the bluebirds, with the highest of these the mountain bluebird. The thrushes

NATURE NOTES

just precede them. There is no sound of nature more inspiring than the vesper song of the thrush. But on beyond this group of birds are our voiceless bluebirds. They have a plaintive note, but no song. May it not be like the music of the spheres, too beautiful for our earthly ears to hear?

There are three species of bluebird in Colorado, and they are very easy to distinguish. Least common is the eastern bluebird, which has only been taken once in our county. In addition to its blue it has a patch of chestnut on its breast. Fairly common in the spring, and nesting in the lower hills during the summer, can be seen the chestnut backed bluebird. In addition to the chestnut on his breast, he has a conspicuous chestnut patch on his back.

Most common, and most beautiful, is our mountain bluebird. It is blue all over. It is the quintessence of beauty. Where the others have a royal purple tinge to their blue, this mountain Adonis wears a soft blue that is best described as turquoise. It is a true patch of Colorado sky. The softness of its color makes the bird the most appealing of any that fly. The good wife, of course, has not so much color; much of her blue is replaced by a soft gray, and often we can only see the blue when she flies and it flashes on her wings.

THE BLUEBIRD

The mountain bluebird ranges from the plains to timberline. And wherever it is found, it is apt to be nesting. The nest is ordinarily built in an old woodpecker's hole, or in a hollow stump. It is a rather bulky nest, fashioned out of dried grass, and is sometimes, tho not usually, lined with feathers. The bluebird will readily take a nesting box if one is put up in your yard and the sparrows are made to understand that it does not concern them in the least. Many a home could be made more happy with a pair of these beautiful birds rearing a family outside of the window.

If you are going to build such a nest, you had better put it up this fall so it can be thoroly seasoned by next spring. As you step back to survey it a flock of birds will fly over you and you will hear their plaintive "pheel, pheel". You may know that winter is near at hand. Bid them god-speed on their southward journey and await the warm days of spring when they will return and make their home with you.

KINNIKINNIK



TRIP our mountains of their kinnikinnik and you will have robbed them of half their green. You will leave naked hills of gravel — barren, uninviting slopes which are furrowed deeply with rain-cut gullies. This most humble plant is at the same time one of the most useful and most beautiful. In the summer time its inviting beds mottle the sunbeams that fall upon them, and in the winter they show green thru the melting snows.

Kinnikinnik is an Indian word meaning “mixture.” The leaves of this plant, dried and mixed with the leaves and bark of a few other plants, formed the excellent mixture the Indians smoked in their pipes. Often tobacco was included in this smoking mixture and often it was left out, as in many of our cigars today. In some sections, red bearberry is a commoner name for the plant, and there are a host of other names, such as mountain-box, universe vine, rapper-dandies, meal plum, barren bilberry or whortleberry, rock or crowberry, mountain or wild crowberry and barren myrtle. Its scientific name is *Arctostaphylos uva-ursi*, the last being translated bearberry. But the prettiest name,

KINNIKINNIK

the most unique and most attractive is, kinnikinnik, "long may she wave!"

Let us sit down in the midst of this green bed and see how it was made. The clump seems formed by a myriad of little erect plants that stand an inch or two high. Each little stem is closely grown with shiny green leaves about an inch long. They are tough and leathery, a dark green above and light green below.

If we pull up one of these little stems we find that it is not a plant at all. A long wooden stem that trails along the ground is crowded with these ascending branchlets. If we pull at this longer stem we can lift it from the ground for a distance of from two to four feet. At places it has struck root, like the runners of a strawberry. The plant literally crawls over the ground until it has formed a dense green carpet. Here is a spray that reaches out onto the adjacent gravel like a long green finger, and it will soon seize the whole patch of gravel with the grip of fate.

These long sprays are a delight to the gatherer of Christmas greens. Tied with a bow of red ribbon, what a gorgeous decoration they make hanging at the edge of an immaculate lace curtain! And it is these long branches, rooted down at intervals, that cling to the soil and prevent the great earth sculptor,

NATURE NOTES

rain water, from cutting up our mountain slopes into rough gullies and ditches.

The blossoms show a delicate pink in spring. Clustered here and there, so hidden in the mass of green that many natives have never noticed them, are exquisite little urn-shaped blossoms, white and daintily shaded with pink. By the middle of the summer the green berries have replaced them; and in plenty of time for the Christmas festivities, these turn to a holiday red which shows a beautiful contrast with the green foliage. But the most striking color is to be seen in the winter killed twigs, which turn to a brilliant blood color. Later, as all the life leaves the twig, it will change into a rich mahogany brown. Even in death the kinnikinnik is beautiful.

But we hardly think of death in connection with this brave plant. Green through every month of the year, it gives a touch of color to any landscape. And in the white winters, its red berries are waiting for the hungry birds or giving a touch of beauty to some fireside decoration.

THE CONY OR PIKA



OME day, when you are on top of Pike's Peak, make your way down toward the Seven Lakes. Leave the roads and trails and railroad tracks to take care of themselves and start down across the huge boulder fields. As you jump from one boulder to the next, you find some of them loose and teetery, and you have to dance for your balance. You will start some boulders rolling down the slope and break the silence of those high places with their rattling. Under the rocks is the gurgle of water, which seems to flow from the summit on all sides of the peak. Here and there you will cross over tiny meadows, soggy under foot, dark green with alpine grasses, and starred with brilliant, though tiny, flowers.

The Summit house and all the roads to it are now out of sight. You are alone on this vast field of boulders. Above you a few cumulus clouds sail in the blue sky, and now and then a huge black raven flies over, craning his head to one side and the other. Way down below, the glassy surfaces of the Seven Lakes mirror the opposite hills in their clear waters. Old Baldy is streaked and patched with black masses of timber. To the right of Baldy, barren and tim-

NATURE NOTES

bered hills are piled in great confusion. On beyond them can be seen parts of the Cripple Creek district, with its unsightly dumps and slides; and on farther and farther are the snow-capped peaks of the Continental divide. It is all so large, so infinite, that your soul fairly shrinks into itself. As you look upon the immensity of it, the silence bears in upon you. Speak, and your voice sounds queerly, and you wonder why you did it. The silence is broken only by the gurgle of the water under the rocks.

What was that? You jump and turn around as you hear a sharp, staccato squeak in the boulders above you. In a moment it is repeated, a sort of squeaky little bark ejected from some tiny pair of lungs with an explosive suddenness. It seems to be within a few feet of you, and still you cannot see it.

A little streak suddenly darts into a crevice. That was he. Watch now, keep quiet, quiet—there he is again. Well, I don't blame you for not seeing him before. He looks like a patch of discolored lichen on the boulder on which he sits. My! what a pudgy, funny-looking little fellow. He looks a good deal like a guinea pig. He is rather fat and round and without a tail. His head is very large and he jerks it forward suddenly as he ejects each squeak. His back is a salt-and-pepper color, with a suggestion of cinnamon about the collar and a grayer head. His

THE CONY OR PIKA

legs seem very short as he scurries over the boulders, and then rolls up into an erect ball on top of one of them, takes in the view that almost terrifies you and utters his squeaky defiance to the world.

Farther down the slope several others can now be seen scurrying about. What sort of beasts are they? Cony or pika is the name they go by. They are structurally related to the rabbits, although they look more like the rats. They live on these rock slides, usually above the timberline, where they are probably active the year around. They feed on the arctic vegetation, and in the late summer and fall work like little demons piling up their winter's supply of plants in little haycocks. "Making hay" is the most noteworthy thing they do.

But they haven't started on this interesting occupation, and it's time we were moving on. So let's travel on down toward the lake and leave these little lovers of the high places to scurry around in their boulders unmolested until another human chances to come by this way.

YARROW



HE soft trail across the naked gravel is too hot; come over here in the shade of these big boulders and rest for a while on this green carpet of kinnikinnik. There are lots of interesting things to look at here. Look at this little clump of silvery-gray plants, how straight their woolly stems are. The leaves are soft feathers made up of a thousand fine, hair-like divisions. These are more or less held together by the dense wool that covers the whole plant. But earlier in the spring these leaves would have been quite free of wool and would have had the texture of fine lace. The top of the stem about a foot from the ground breaks up into a cluster of branches, all of which reach up to the same height, like the arms of a candlestick. Each branch is topped with a flat cluster of white flowers. These are all so close to each other that the whole top of the plant is a flat plate of white blossoms. This is the yarrow (*Achillea millefolium*).

Out through our cleft of boulders, even though we are almost at timberline, we can look higher up the slope and see other patches of this silvery-gray plant. Below us is thrown together an unorderly pile of barren slopes, steep cliffs, timbered ridges

YARROW

and rocky declivities. Through all this mass of uneven land our imagination can place patches of this herb which we know must be growing there. Way out upon the rolling plains our imagination will also have to put borders along roadsides, and down dry arroyos, and upon yucca grown hills. Everywhere does this weed grow. As we look upon the miles and miles of land stretched out before us, it becomes appalling to think of the millions of plants that it takes to cover all this territory. And if we allow our imagination to carry us beyond the borders of this state, through all the rest of the continent, and across the seas into the old world, we shall still find hosts upon hosts of this silvery-gray herb, with its flat crown of white blossoms.

But thinking of these millions and millions lulls one to sleep as surely as "counting sheep jumping over a stile"; the day is hot, this rich bed of kinnikinnik is soft, and we are soon in the land of dreams. Our fancy may carry us back to the ancients and we may find ourselves roaming with our dreams through the rocky hillsides of the old Grecian Isle of Scyros. We hear the rattle of stones and suddenly around a huge boulder appears a strange beast, with the legs and hoofs of a goat, clattering on the loose rocks, but from his waist up he is a man with a kindly and exceedingly wise face. He looks like a

NATURE NOTES

god. It is Chiron, the centaur, and his favorite pupil, Achilles. They come close to us and stop by a clump of silvery-gray plants crowned with a flat cluster of white blossoms. We hear old Chiron tell the boy of its powers and explain to him the secrets of a powerful salve that can be made from this herb, with which Achilles will be able to staunch the wounds of his Myrmidons in the siege of Troy. And the old centaur gives to the plant the name of the hero and they clump away through the rocks of dreams.

On the wings of dream we now take our flight to the lanes of old England. Here we see an old crone, bent and limping through the hedgerows. She is gathering herbs, and as she comes to a clump of silvery-gray plants crowned with a flat plate of white blossoms, she utters a few pleased grunts and mumbles a few charms as she gathers the precious herbs. Then we follow her back to her hovel where we find her brewing her plants in a great black kettle. Of her old English yarrow she brews love philters, and teas to cure the falling hair and the ague and other ailments. A concoction is made which will induce nosebleed for the relief of congestive headache. She also brews the famous salve for the staunching of blood from fresh wounds.

Or shall we travel to Sweden of the olden day

YARROW

and see them make a particularly intoxicating beer from this silvery-gray plant. Go where you will, you will find this yarrow one of the commonest and best known herbs. It is written in the legend and romance of all peoples. Its common names attest its many virtues—achillea, yarrow, thousand leaf, milfoil, nosebleed, old-man's-pepper, soldier's-woundwort, gordaldo and sanguinary. Get acquainted with this herb of the people and let it take as firm a hold upon you as it has upon the millions of the generations that have gathered it before us.



YELLOW-HAIRED PORCUPINE



IF, IN one of your walks through the mountains, you should find a huge pin cushion hanging up on the trunk of one of the trees overhead, it would probably be the yellow-haired porcupine. While not at all common in our mountains, he certainly cannot be called rare. A thoroughgoing woodsman (who, incidentally, thinks that forest conservation is all bosh) he is seldom found very far away from the timber.

As I have sometimes looked at his bulky, ungraceful form. I have wondered what he really thought of himself. Surely he cannot consider himself a raving beauty. He is pretty nearly a yard in length, about a half foot of this being a most solid and substantial tail. He gives the appearance of being very fat and pudgy, and on the front end of him he wears a little head like a football player. His face is black and set with two uninterested black eyes. Inside of that face he carries his tool chest, his splendid set of carving instruments. All of his upper parts, including his tail, are covered with protective quills, except on his face, where he has cleared things out so he would be able to see. The quills on his back are almost hidden by the long

YELLOW-HAIRED PORCUPINE

hairs which reach out beyond them. These are about six inches long and are black, except for the terminal inch, which is yellow. Let danger approach and the porcupine will curl up like a ball, tuck his naked nose down in the middle of the ball and cover it up with his stubby tail. Now he is ready to be picked up. Use both hands—you will enjoy it better!

His profession is carving green trees. He lives largely on bark, which he gnaws away with no regard whatever for the tree. If he chances to girdle a tree, of course, he kills it; but, fortunately, he often works only on one side where, beyond allowing an entrance for parasites, he does no harm. To be sure, we resent his killing a tree, but perhaps he has as much right to do this as we have. And we will have to look back upon the splendid record of our enlightened race in this respect before we throw too many stones at the offender.

Besides bark, he eats berries, fruit and grass to some extent. Like all animals, he is fond of salt. If a piece of wood which has acquired salt from much handling is left in an empty cabin, he proves himself a rare wood carver. He will gnaw it into almost any shape. The favorite shape towards which he works is extinction of the piece, total obliteration.

One of the favorite myths connected with the porcupine is that he is able to throw his quills with

NATURE NOTES

an unerring aim, like a machine gun. Get within ten or twenty feet of him and the quills will come out of his back like bees out of a hive and will sting you with as great a certainty. If you wish to start a real good fight and have someone really pity your ignorance, deny this most interesting legend. A score of people will assure you that they have seen it; or, to be more exact, they have a friend or brother who has really seen it; or, to be absolutely honest, this friend had a friend who did really and truly see it—and they know it is so.

Scientists could hardly accept such testimony, so they tried to prove the legend by experiment, and they failed. The porcupine can take a quick stroke with his tail and strike quite a distance. The spines are left on a nearby object, and the credulous observer feels certain that they were thrown. But the verdict of that heartless court of science puts this quill-throwing legend in the same class with that of the prairie dog, the rattlesnake and the burrowing owl triumvirate.

BEE PLANT



THE DUSTY road climbs up over a low mesa and then slips down into a hot valley on the other side. The motor begins to grind as you tackle another hill, there is a little jerk in the car as you hear the low gear jammed in, and then you begin the slow, steady climb. The disagreeable ladies in the seat in front of you are still talking about their dear landlady: "Prunes, mind you, for dessert; won't stand for it another day!" You swerve out to let a hilarious party of giddy young things whiz past, and as you swing back into the dusty tracks again the mechanical driver pours out another ungrammatical speech through his nose: "Over to your left you can see—" But you don't listen to the rest of it.

You have suddenly found the solution of the problem that you have been wrestling with for the past two days. If you stop for two days at Cousin Sue's on the way back and then run right down to Frank's folks, you can stay there for the rest of the week. Oh, but there are the Higginses! You promised to stop off there for a day. "I've half a mind to tell them—but that wouldn't do."

NATURE NOTES

The rubberneck has again topped the hill and you drop into the valley in front of the huge Gateway rocks. On either side of the road is a thicket of tall weeds topped with pinkish-purple flowers. They grow to the very edges of the road to see the continuous parade of cars file past. "Guide, what is that pink flower out there?" an old gentleman in the back seat calls out; "we've been seeing it along the roads for weeks."

"I don't know," responds the driver, as he points up to the white rocks on the left. "I don't pay no 'tention to weeds. Over to your left you can see the stage coach—" and he is at it again. Do they ever run down?

As he stops the bus to show you just how the driver of the coach holds his whip, let us take a look at this plant. The green stem is very much branched and each branch is clothed with dusty green leaves. Each leaf is divided into three long willow-leaf segments, which are folded more or less down the midline. Surmounting each branch is a plume of gorgeous red-purple blossoms. The top and center of each dome of blossoms is composed of as yet unopened buds and below the three or four inches of blossoms the stem is clustered with the long green seed pods. In such profusion do the plants grow that their tops make almost a solid mass of pink. It is

BEE PLANT

not a plant that most people would pick for bouquets, thank goodness, for it is so striking along the roadside that we wouldn't have it spoiled.

It is the Rocky Mountain bee plant (*Cleome serrulata*) which is a real boon to our western bees. Much nectar can be gathered down in the center of its four purple petals, and what does the bee care if the long stamens that hang out from each blossom do sprinkle her back with pollen for her to carry over to some neighboring flower. Some times it is called the pink cleome. This distinguishes it from, and at the same time relates it to, the yellow cleome (*Cleome lutea*), which is not so extensive, but just as beautiful in its golden dress. The bee plant crawls along all of the dusty roads of the state, but its golden-haired sister is more shy and must be sought after if you wish to know her.

THE BURRO



HE REAL prima donna of our wild mountain chorus is the burro, and her husband is no whit behind her. Caruso, with his painted face, false beard and velvet tights, strutting under a border of scintillating lights, is artificial when compared to this modest mountain singer. Oh, the genuine sincerity of his song, the soul-stirring agony of his face, the deep intensity of his tone, as he stretches out that sinuous neck, opens wide those long jaws as though they were locked in the throes of tetanus, and pours and squeezes out his minstrel lay! In his natural setting of solemn pines, rough piled boulders and towering mountain peaks, there can be no comparison with the artificiality of the human singer. We must be silent, or we should be sued for libel.

And who is this singer? What is the parentage of our burro? He is nothing but a plain little donkey, a dun-colored ass. His ancestral line goes back directly to the wild asses of Africa (*Equus Africanus*). There are several species of ass still wild in the world today. The African wild ass was domesticated early in the dawn of history by the Egyptian people, and gradually came to be used by

THE BURRO

all of the peoples of the Mediterranean country. Then they began breeding the patient brute until they had developed large asses and small asses, fast asses and slow asses, black and white and dun. They crossed them with horses and secured mules, and to-day in our own country we have extensive mule farms, where these valuable animals are bred. They are sterile and do not perpetuate their kind, and so every mule can claim a mare as his mother—in whom he takes an inordinate pride—and a mere donkey, an insignificant burro, for his father, for whom there is not venom enough in his language to express the scorn he feels.

The ragged donkeys of England and the north countries are an offshoot of this line. In Spain they received more attention and were bred to a better size and strength. And with the discovery of the new world they were brought over to build the trails and pack the loads of the wilderness breakers. The Spanish called them burros, and when they reached up into new Spain, into Colorado and adjoining land, they retained this Spanish name. But still they are the same little animals; mere donkeys, mere asses, mere beasts of burden, who, "by any other name, would smell as sweet."

Let us step up into the corral and look them over before the drudgery of the trail begins. Here

NATURE NOTES

stands a red-headed little fellow, "when troubles come they come not single spies," a sort of cinnamon, reddish gray; he is not even successful as an auburn-haired beauty. A pair of shapeless, skinny legs, knocking at the knees, supports a bony slab of shoulder. A yard or so behind, the angular hips are held off the ground by a single loyal leg, while the other hangs in apparent comfort to one side, lurching the whole ship to the leeward. Between the hips and shoulders sags and bags the much-stretched hay receptacle, the real soul of the animal; while in front, the long neck droops under the mighty weight of head.

What a noble head, used in all ages as the symbol of stupidity! One ear stands at attention, while the other slumbers down over a large and pensive eye. At the end of the long snout the big, expressive lips quiver as they dream of a juicy bite of grass. The under lip hangs out a little, but we won't count that against him. Clap your hands and the sleeping ear stands up. The two wave slowly and impressively around like the magic wands of a fairy or the long feathery antennae of a moth or a strip of carpet flapping in the wind, and then relapse into sleep. Behind, he carries a tail, best left undescribed, and that completes his picture.

But turn to this handsome gray fellow with

THE BURRO

head erect. See the stripes on his legs, which speak his kinship to the zebras. See the black streak between his shoulders, which is crossed with a lateral black mark starting down each leg. This is the trade mark of all burros, and is said by some to be the sign of the cross, symbolic of the flight into Egypt, when this modest and spurned little beast bore the King of Kings upon his back. Here in the clear morning light, as he holds his head erect and sniffs with the frightened air of a wild thing, we can imagine him upon some low hill overlooking the African deserts. A sniff and a snort and he is away, as fleet as an antelope and as wary, a good race for any horseman. But his red-haired companion awakes from his reverie and opens that awful mouth. He strains out such a hideous sound that we flee in terror and the vision is lost.

THE COLORADO COLUMBINE



HOSEN by the school children of our state, the Colorado columbine has been crowned the king of all our wildflowers. It was in April of 1890 that the first arbor day was observed in our state. Over twenty-two thousand children took part in its celebration. The chief feature of the day was the choosing of a state flower. The children in the little school houses out on the plains entered their cactus blossoms and prickly poppies and yucca. They championed the beauties of their dry rolling plains. From the schools of the foothill regions came a clamorous appeal for the glorious mariposa lily, or for the charming spring anemone. While the sons and daughters of our mountaineers entered their regal columbines. In the schools of the larger cities the children were dreaming of their summer vacations and championing each a different flower. Perhaps it was the blue stalks of the monkshood or larkspur, perhaps it was the golden cups of the orchids, or the blue fields of beardtongue that color our summer hills. Songs were sung, recitations fervently delivered and youthful orations painted the glories of the various candidates from the fields and

THE COLORADO COLUMBINE

woods. Little girls with pig tails and big fresh ribbons, little boys with stiff collars and clean shirts, school rooms at attention on program day with fathers and mothers sitting in chairs around the back; could you find a higher tribunal, a more fit court of awards than these children, these flowers of our state, before whom to try the merits of our rare wild blossoms. There is something significant here.

When the vote at last was announced our columbine had won by a large plurality. Over fourteen thousand children had supported this flower. The mariposa lily came second with a few over eleven hundred votes and the cactus blossom took third place with a thousand votes cast. More than fifty flowers had been entered in this contest and the columbine was undisputed champion of the day.

Let us behold the king on his throne. It is a high mountain slope. A few clumps of scrub willow and a few patches of spruce have thrown themselves on the ground here to breath in this clear air. We are at timberline; it is early August. The columbines of the lower mountains have ceased to bloom a week past, the huge stifled bouquets carried by flower vandals along the streets of our cities are no longer seen. But, here growing beside a delicate cluster of pretty polemoniums, is a gorgeous clump of columbines. The long graceful stems are

NATURE NOTES

well clothed with three-parted leaves and hanging from each dark green stem are two or three exquisite blossoms. They are full three inches across as they sway in the breeze. A feathery tuft of golden stamens in the heart of each blossom is surrounded by five white petals that stand up around them. These are produced into long blue spurs which extend back between the five deep blue sepals. Even the sepals of this flower are more beautiful than the petals of many of our wildflowers.

If it were a little earlier in the season we might find here near timberline, the little dwarfed columbines (*Aquilegia saximontana*) with tiny blossoms not an inch across, little blue midgets imported from elfland. Or down in the canons that run out upon the plains we might find the yellow columbines (*Aquilegia chrysantha*) which seem to have been cast from the same mold as the large blue blossoms, but which have been painted with a rich yellow.

Crowded into a bouquet these blossoms lose most of their beauty. Ten or twelve good large blossoms arranged with meadow rue or fronds of fern are almost as beautiful as the wild blossoms growing on the mountain side. But these stifled bunches that we sometimes see jammed into a vase only show the owner's selfishness in stealing so many of them

THE COLORADO COLUMBINE

and expose the poor taste that can abide such an abomination of choked things.

This name columbine is derived from *columba*, the dove. If you pull off one of the petals and its two adjoining sepals you will behold a dove with expanded wings. Others tell us that if you look into the cup of the flower you will see in the nectaries the heads of five doves drinking from a central dish. *Aquilegia coerulea* the scientists have named it. They, too, fancy a resemblance to a bird. But what a different bird do they see in our blossoms! It is *aquila*, the eagle, they see in those long spurs, the eagle of our high mountains, an eagle clothed in the cerulean blues of our sky.



WHITE-CROWNED SPARROW



IT IS unfortunate, but true, that an individual can give a bad reputation to the whole group with which he associates. One hawk steals a chicken, and immediately the world pronounces the entire group of hawks as harmful. One small boy breaks a window, his gang is forever after frowned upon by the entire community. One politician is found with graft money and immediately the world points with scorn to all politicians. One sparrow, of foreign extraction, gains an unenviable reputation, everyone connects the words "sparrow" and "pest" together, and the whole group is despised.

We have nearly twenty different species of sparrows in our county. Some are inconspicuous and rare; some are dull and uninteresting; some are positive pests, as they litter up our dwellings and drive away the useful birds. But there are some who are just as truly among our most handsome, most cheerful and most lovable birds. Who does not love the nifty little chipping sparrows of spring? Who has heard the voice of our best song sparrows without responding to the beauty of it? Then you

WHITE-CROWNED SPARROW

haven't really heard it! Come, take a day off with me!

We shall go up into the Seven Lakes country and perhaps loaf around looking at "just things" until rather late in the afternoon. Standing down at the foot of Blizzard Pass and looking out over Lake Number Two will put us in the proper mood. Dead spruces stand knee deep out in the cold, clear water. Behind them tall spires of green cling to the precipitous, cliff-set slopes. Reflections wriggle on the tiny waves, as they splash up onto the rocks at our feet. The cliffs are high, the greens deep, the water is so dark and full of unknown mystery, that you almost expect to see a white arm rise up from its surface brandishing the jeweled Excalibur, and a dark barge disappear with the wailing of the three queens.

A water ouzel breaks our meditation as he flies before us and teeters on a shining wet rock. We wind around the lake on the fern-bordered trail and come out into the willow-matted marsh land of Boehmer creek. Deep grasses, brilliant flowers, a cold sparkling creek, and thickets and thickets of scrubby willows; a clear bird note sounds to our left, soft and delicate, followed by a second note just a little higher, which terminates with a few soft grace notes—then it tumbles down in a trill of three sharp lit-

NATURE NOTES

tle notes and is over. From the other side the little song is repeated. Behind us, ahead of us, on all sides it is poured forth. The willow thicket is alive with minstrels. The first low note seems expressive of the quiet of the mountains; it is full of that fathomless something that twinkles from the stars or gurgles from a fern-hidden brook. Then it is strengthened by the second long, higher note, which breaks up into the little grace notes and trickles down the scale in its playful trio of staccato notes.

“Dear, dear—Whittier,” they sing, “dear, dear—Whittier.” And then one will add, in a matter-of-fact way, “He’s dead!” Two short, descending notes are tacked onto the end of the score occasionally, very evidently by way of explanation. So they, too, love the Quaker poet! Poets they are themselves. They are so near us as we stand quiet here, that we can see their beautiful little caps. The bird is a soft, grayish, sparrow color, streaked somewhat with brown; but on his little head is a bonnet of the very latest style. A pure white stripe runs over the center of his head; on either side is a broad, black stripe. At the sides again are white stripes bordered below by a black streak which runs backwards from the eye. It is like a jockey’s striped cap and is quite the most striking headdress on any bird I know.

WHITE-CROWNED SPARROW

Notice that the lateral stripes do not run in front of the eye. If they did, it would be the intermediate or Gambel's sparrow, which comes thru the city on migration in March and April and then moves northward as the white crowns come in May. They stay perhaps a month and then move up into the mountains, where they nest even above timber line and are never seen very far below it.

I wish we had time to go out into the thicket and find a grass-lined nest hidden close to the ground. We haven't time today, and perhaps our little singer wouldn't like it very well. So let's go down the valley until the beautiful tribute to our poet dies away. Once heard, it will always sing on in our memories as one of the prettiest songs that ever tinkled in our ears.

WILD TOTEM POLES



WE HAVE blooming at the present time two floral totem poles, green obelisks, or herbaceous Eiffel towers — it makes little difference what you call them, so long as you get the idea. They are tall, slender spikes, from two to four feet high.

The casual observer would never call them wild flowers; he would call them plants, or, more likely, weeds. But, upon closer examination, he would not only find that they bore flowers for almost their entire length, but that the flowers were really pretty.

On the plains, in the vacant lots and quite a way up into the mountains, the smaller of them is found. Its name is *Oreocarya virgata* or *Krynitzkia virgata*—take your choice! We can find no common name for the plant, tho it surely deserves one, so we have to call it by one of its generic names. We shall choose the latter and, with our limited knowledge of Russian, have ventured to translate it the “sneeze.”

It is very slender and grows from six inches to two feet high. Along its stalk it gives off a large number of rather short and very slender leaves which are thickly covered with silvery white hairs. These are rigid enough to make them disagreeable

WILD TOTEM POLES

to the touch. In the angles made by the leaves and the stalk are tiny clusters of white, forget-me-not-like flowers. They are five-lobed and have a little ring of gold in the center. If placed on a less prickly stalk, such as some droopy, shade loving, garden plant, people would rave over their delicate charm. But this floral obelisk, set out in the dry desert sand — for the dryer it is the better they like it — is often overlooked by people who could get joy from its acquaintance.

The other is larger, sometimes as much as four feet tall, and is more noticeably leafy. These leaves are yellowish green and dusted with a whiteish powder. At the base they are nearly a foot long, but grow smaller as they ascend the stalk. They are arranged in fours and sixes, being attached in whorls or rings at definite intervals along the stem. For geometric precision this is a marvelous plant.

It is not truly a gentian, but belongs to the gentian family; and, since its only other name is unwieldy — being “conspicuous columbo” (*Frasera speciosa scabra*) — green gentian seems the best name by which it can be known. The flowers are a creamy green and occur, as in the “sneeze,” in little clusters in the angles of the leaves. Each flower is about an inch across. Two slender green rods intersect each other at right angles on the tip of the

NATURE NOTES

flower stem. Bisecting their angles are four rather broad, light green petals, with right angled points. This gives us a distinctly square flower, like a design in linoleum. The fleshy petals have near their bases a pair of little brushes which attract the insects. In the very center is a little fringy crown, from the middle of which rises the pistil. This is surrounded by four stamens which accurately bisect the angles of the four petals. There ought to be a theorem or corollary which would prove this flower.

On the creamy green petals are purple spots. This color scheme and the color of the flower is not meant to attract butterflies or other dandies of the air, but rather to attract flies and more humble insects; we welcome competition! Look for a mountain slope covered with these tall plants, examine the remarkable geometric flower and watch the little insects that can usually be found crawling over every part of the plant.

RED-SHAFTED FLICKER



OW there is a wise old bird! The more we see of him, the more we think of him as a ponderous personage. He had the misfortune to be cast in the mold of those hard-headed birds, known as woodpeckers, that bump their faces against a tree trunk until they dislodge a measley little grub. Immune to headaches and toothaches, they pound and pound all day, earning every nibble that passes down their throats.

The flicker, like most possessors of wisdom, is a trifle lazy. Nature built him with climbing feet that could cling to tree trunks, with a stiff tail, with which he could prop himself in position, and with a long bill like the rest of the woodpeckers. He was designed to be one of these wooden-headed tree tunnelers. But he saw the joke of it all and, like any true philosopher, proceeded to do as he pleased in the matter. Dig his way into a hard tree to get a bite of grub? No, no, son! Never! See that little pile of earth down at the bottom of the tree, with the hundreds of ants crawling out of it? There is a square meal that is so easily procured it will leave the diner time to ponder on the foibles of this old world. So down he goes, pokes his long bill into the

NATURE NOTES

ant's nest, and deliberately gathers up the insects with his sticky tongue. He, of course, enjoys his fruits and berries in season, but makes the bulk of his meal on ants.

The woodpeckers as a lot go in pretty strongly for fancy clothes. They love to wear white vests, and red neckties and flashes of yellow and black. The flicker is no whit less vain, but he seems to have found by experience that it doesn't pay a ground-feeding bird to put on too much style. He knows that for the safety of his precious skin he will have to resemble the ground upon which he feeds. On his back he is a light olive brown with many short cross bars of black. He is very spotted with these short bars and the general salt-and-pepper effect makes him hard to see. His head is a lighter brown and unspotted. His throat and breast are a bluish gray. Modest enough, except for his moustachios! There we see he is a true dandy, for all the gentlemen flickers have bright red patches on each cheek. As he flies we see a flash of red under his wings and tail and on his rump is a conspicuous white patch. If he alights on that branch we shall see his breast-pin, a huge black crescent, worn as proudly as any iron cross.

By woodpecker instinct he should gouge himself out a hole in a tree for his nest. But true philoso-

RED-SHAFTED FLICKER

pher that he is, he either chooses a very soft and rotten tree, or appropriates a hole that some more ambitious bird has already excavated, or contents himself occasionally with a hole in some soft bank. In here he will keep watch over the seven white eggs which his wife is brooding and wait for the funny little babies to come out into the world.

Every wise man has his weakness. As we watch some profound scholar who stands before us, the more speculative of us cannot help wondering how this dignified walking encyclopedia managed his courtship. How did he make love? The more you speculate, the more apt you are to break up the meeting with laughter. If you have ever seen our philosophic friends, the flickers, woo their lady loves, your imagination will have no trouble picturing the learned doctor in a similar position. They strut and strain and grunt, and bow and squeak with such ludicrous emphasis that it would make a vaudeville comedian throw up his hands in envy.

THE BEARDTONGUES



SOME flowers are most beautiful for the masses of color that they produce. Some of our humblest yellow flowers, that have no individual charm to speak of, will often cover an upland meadow with the flush of gold, or gild a barren prairie with the glory of the sun. Less often will reds or pinks mass together and flush a whole landscape. But blue is almost as often seen as yellow. The floral pigment that is used for this grandiose painting is the beardtongue.

Leafy stalks a foot or more high, topped with a long spike of blue blossoms, might describe the beardtongues. Many people incorrectly call them bluebells. If such people would only take time to examine them, they would find that the beardtongues have nothing in common with the bluebells save their color. The blossom is really a two-lipped affair like a snapdragon. Pinch it at the sides and release it again, and you will get something of the same biting motion that so delights children in the garden flower. And yet we cannot call it properly a snapdragon.

Tear the blossom down its length and you will find, in addition to the pistil reaching out from the

THE BEARDTONGUES

swollen ovary at the bottom, four gracefully curved threads that bear at their free ends little two-lobed boxes. These are the stamens and are attached to the inside of the blue tube. In addition to these, there is a fifth stamen usually somewhat swollen at the tip and bearing a little tuft of hairs, a sort of little beard. This is the bearded tongue from which the flower takes its name. It is a sterile stamen, which, with the four fertile ones, make a total of five stamens. Express this in Greek and you have *pentstemon* (or, at least, so we have been assured), and this is the generic name for the plant. It is used as often as, if not oftener than, beardtongue for the common name of the plant; it is pronounced with a long "e," and with the accent on the second syllable.

Out of the 48 varieties of pentstemons listed for the Rocky Mountains, we have about a dozen in this region. Some are very difficult to determine, but a discussion of them would only interest a trained botanist, and he doesn't need it.

Still, all of us can notice the different varieties and see what a range of color they display. Out on the plains we find a form which grows about two feet high. Its flowers range from a rather deep blue to almost pink (*P. secundiflorus*). From an automobile or train window we can see long armies

NATURE NOTES

of them stretching along depressions near the road. After riding a few miles they seem to be regiments of bluecoats marching on to Mexico.

In the mountains we find this same form, but it is less common. The commoner mountain form is smaller and a much deeper blue (often *P. humilis*), and is really quite a bit prettier. We may see the gorgeous masses of blue displayed by a variety with large, swollen flowers growing mostly on one side of the stems (*P. glaber*). Just below timber line we find a variety with dull lilac or violet-purple flowers, (*P. glaucus*), which often shows a variant with tinges of white, and in some cases a pure creamy white blossom.

Some of the picnickers in the lower mountains to-day will be sure to see a stalk bearing brilliant red firecrackers. If they examine it carefully they will find that it, too, is a penstemon (*P. torreyi*). It is one of the most startling plants they will see, a brilliant brick-red flower which blooms in time to celebrate the Fourth of July.

THE BUFFALO



WID YOU see them—the huge herd of buffalo that passed by last night? There were thousands and thousands of them in a great milling mass that spread out way beyond the horizon to the east of the city. In the dim light one could barely see the huge hulking forms with their great hump backs, heads low as they grazed over the plains. Through our streets they wandered, stupidly staring at the naked asphalt as they searched for the prairie grasses that used to grow there. The flowers and benches in the parks were strange to them. The whir of a midnight auto, as it passed through the lonely street, made them raise their big heavy heads and stare stupidly at the disappearing tail lights.

They tramped down the turf at the golf course and munched at the strange beds of flowers in the grounds at the Printers' Home. Ignoring fences, they circled about on the plains in little bands of twenty to fifty. Then the sky turned red in the east, a lop-sided sun was pushed slowly up behind the bluffs and the great mass slowly got in motion. There was the thundering rumble of thousands of hoofs,

NATURE NOTES

and the undulating sea of huge shaggy shoulders passed out of sight into the daylight. It was the great ghost herd—the ghosts of the huge beasts that shared this land with the Red Man long before we ever dreamed of a “Little London” in the shadow of our Peak.

A century ago this animal was numberless. It ranged over our whole country, even a few being found along the Atlantic seaboard. Here in the west only fifty years ago, there were over five million of these beasts to be found. Today there are none except the few that are held in city parks and zoological gardens. Not even the bones or buffalo chips can be found. They have worked into our soils and appear now only as the grass that greens the rolling plains. They were heartlessly exterminated by sportsmen—a name in which one should not take too much pride. Thousands were left to die untouched by the hunters who had the keen “sport” of killing them. Thousands and thousands were shot by hide hunters, who sacrificed one of these great beasts in order to strip a skin which they could sell for a dollar and a half. Many were killed for meat. The Indians took their share for sport, meat and for hides, which they sold for a bottle of cheap whisky.

A beautiful record, with which every one is familiar! An animal so numerous that trains could

THE BUFFALO

not pass through the great herds, so numerous that they blackened the plains as far as the eye could reach, and even ranged into the mountains above timberline—has been practically exterminated. The last bull in the Pikes Peak region was killed in 1879, and a few cows lingered on for five or ten years more. Even though they are gone, we must pay tribute to this handsome beast which was by far the most common of any animal in our region.

Let us look at the ghost of this old bull as he stands on the bluff and looks back upon our strange city in the early morning light. What a magnificent fellow he is, with his great shaggy cape thrown over his huge shoulders, and lumped in ragged festoons at his knees. His sleek hind parts with their short hair hardly balance the great mass in front. His extensive face is buried under the thicket of fur which hangs in a long beard under his chin. Those two black eyes are small for so great a face, and they have a heavy, wondering look in them. They still fail to understand this strange game of existence, in which, as one played his allotted part, an odd figure appeared on a sleek pony and spit fire into the herd; his comrades fell motionless upon the ground, then that black tube was pointed at him—it spit, and a burning something buried itself in his flesh; things wavered and then all became black.

NATURE NOTES

Those wondering eyes still ask why. Why has he suffered this, he and his comrades? We must turn away from those questioning eyes. There is no honest answer that we should care to give.



CHICKADEES



HE LITTLE rascals, they are the cutest packages ever done up in feathers. Placed in a scale pan and measured by pounds and ounces they don't amount to much; but weighed in the hearts of the bird lovers that know them there is no creature that can tip the beam so far. As you silently tread over the soft cushion of needles on a lonely walk through some high spruce forest, a cheerful note breaks the perpetual twilight as effectually as a beam of sunlight. "Chick-a-dee-dee-dee" some busy little worker calls out, and as you look up into the branches you see him fly into the next tree, with a nervous, bobby sort of flight. Like as not he will land upside down, hanging onto the bottom side of a cone which he busily picks to pieces looking for insects, or their babies, or tiny eggs. He picks at this side, then that, totally oblivious of the fact that his head is hanging straight down and that his little black feet are where his head ought to be. He jabbars away as he works in a most garrulous and cheerful mood.

As we look about we find that the whole grove is alive with these little midgets. And what a troupe

NATURE NOTES

of acrobats they are, running along branches upside down, crawling over them and under them, and up them and down them, absolutely regardless of any of the laws of gravitation. As their friendly jabbering increases you begin to think you are at some pink tea where dear things talk on and on incessantly. And the chickadee's gossip is just as light and airy and inconsequential, but just as cheerful and good for the soul. How busy they are, flying from branch to branch and nervously fidgeting into every crevice and niche on the bark. If there is any wee insect that escapes detection it will be a marvel of marvels and can only be explained by the fact that the little lady was indulging in too choice a bit of gossip at the moment to notice the wee thing.

In the foothills our commonest form is the long-tailed chickadee (*Penthestes atricapillus septentrionalis*) which is only a variety of the common eastern chickadee. His chief distinction is his jaunty black cap and the black patch under his chin. The mountain chickadee (*Penthestes gambeli*) is a little darker slate in color, and seems to me to be always a little more frouzeled up. He is easily distinguished from the preceding by the fact that, in addition to the black cap and chin, he has a black streak running back from the bill over each eye.

CHICKADEES

But all of them move down into the city for their winter quarters. That is the real time to get acquainted with a circus performer. Put out plenty of seeds, suets and nuts. Get up some cold snowy morning, when everything seems to go wrong and glance out of the kitchen window. There you will see a flock of good cheer. Your little midgets will be scratching the flakes heaped up on the table, in every direction in their search for the seeds buried beneath. They will fly to a nearby tree and sing their little song and sign it with a D. D. as flourishing as that signed by any Doctor of Divinity—the sacrilegious little scamps! And regardless of how cold it may be, or how many things have frozen up, like the thermometer, this little minister of good cheer will have planted a smile on your face that will bubble out all day.

SQUIRRELS



YOU HAVE left the trail and wandered up a little dell which is deep shadowed by the spruces. The needles under foot are spongy. At the base of several of the trees are great litters of torn-up spruce cones, the reddish scales making quite a pile. Mr. Squirrel has been feasting here. That slope would indeed make a splendid yard for any squirrel, with its trees so close together that their branches intertwine, and all set in such a quiet little dell that one's breathing even sounds loud and out of place. Absolute quiet!

There is an explosive bark overhead and then a great rattling like the popping of a miniature motorcycle. Wow, what a noise! "****—*!!**—..*?0" he shouts at you. The profane little rascal. It would be all right for him to tell us to get out of here; perhaps we are intruding. But he shouldn't be quite so rough in his remarks. Swearing like a trooper, he jumps from branch to branch, his whole body jerking as he hurls his curses at you. Squcak, rattle, chatter, bark, scold; it would be impossible to reproduce that interminable series of noise.

SQUIRRELS

How lithe he is as he jumps about, runs up and down the tree with the agility of lightning, and trusts his frail weight to the tip end of the smallest branch. There, he is trying to sit quiet now. What a pretty little beast he is. It is too bad that most good-looking people have bad dispositions, and it is only we ill featured, misfit, dun-colored, plain, sorry-to-look-upon people who have the sweet, angelic temperaments. Our profane reprobate there is dressed in as handsome a coat of rusty gray as you have ever seen. As he sits on his hind legs, we can see the white waistcoat, separated from the gray back by a conspicuous black stripe. His perky little ears, white-ringed eyes and sniffing nose all give him an air. And the big plummy tail that gracefully curves up over his back, with its tip flaring out behind his ears is the master touch. If you would straighten out that tail and unbend the graceful curve of his back, he would measure in all about fifteen inches, but curled up as he is, munching the spruce nut which he holds in those tiny hands, he is scarcely half of that.

He is the pine squirrel or Fremont's Chickaree (*Sciurus fremonti*). You will find him in any of the pine or spruce forests of our mountains. His nest is built in a tree and perhaps occasionally underground.

NATURE NOTES

Besides the pine squirrel we only have two other varieties common in the region, except the ground squirrel, which we have already discussed with the chipmunks. The commonest of these two is the rock squirrel (*Sciurus variegatus grammurus*) which you will see sunning himself on some rock in a hot and dry gully, at the lower elevations. They are nearly twice as large as the pine squirrel, but their dappled or mottled coat which is in color very much like the granite boulders upon which they rest, make them very difficult to see.

Even rarer in this region is the plain-backed squirrel (*Sciurus aberti ferreus*), which is sometimes seen in a forest of yellow pine. They are nearly as large as the rock squirrel, but are in color more like the pine squirrel. But why long for an acquaintance with these rarer forms when the rip-swearing, scolding daring pine squirrel is so common and such a delight to watch.

LARGE FLOWERED SHRUBS



HERE is something daring in the way some of our larger shrubs simply thrust their blossoms towards you. They seize your attention and demand your curiosity. Let us first consider those whose individual blossoms are fairly large, a half-inch or more, as distinguished from those that have tiny blossoms massed into large sprays or clusters.

Of the larger flowered shrubs, there is nothing to compare with the wild rose. It is a part of the literature of the world, whether it be the lauded eglantine of Shakespeare, the wild Irish rose of the popular ballad, or the "handful of roses" flung on the grave of the "cowboy-ee" who was "buried there on the lone prairie." We all know the rose; no description is necessary. Our five or six local varieties are only distinguished from each other by scientific names, and they vary but slightly from the roses of the Old World. Except for a few minor variations in the arrangement of the thorns, the habit of growth, or, perhaps, the size or shape of the blossom, the wild rose is the same the whole world over.

NATURE NOTES

Less fragrant, but more bold, is the thimbleberry (*Bossekia deliciosa*). A large shrub with shiny, three-lobed leaves, it is sometimes fairly covered with large white blossoms. The gorgeous display of bloom that it flaunts thru June is not paralleled by any other shrub. The blossoms are much like roses, but are much larger, often measuring over two inches across. There are five wavy white petals clustered around a little tuft of stamens. The long green sepals are tightly recurved around the flower stem, and later will curve up and surround the developing berry.

This berry resembles the raspberry, except that it is much flatter; in fact, it is often called the false raspberry, and like most false people goes in for fancier clothes than it can afford. The berry is quite unpalatable to the human and is saved for the birds. Its period of blossom is soon over but next June, when the first bush adorns itself in its white bridal robe, it will draw from us as genuine an exclamation of surprise as tho we had seen it for the first time.

"A fragrant, waxy, white flower," is the subject of a common query. It is the waxflower (*Jameisia americana*), and for delicate fragrance it has no rival. It is sometimes called the Rocky Mountain wild orange, but we can find no authority for

LARGE FLOWERED SHRUBS

this, unless it be its close botanical relationship to the mock oranges or syringas. And yet, its fragrant orange blossom odor, and its waxy petals, so resembling those of the orange, are enough to make anyone instinctively call it a wild orange. The blossom is about a half-inch across and is composed of five white petals of the consistency and gloss of wax. In the center is a little tube of ten stamens, alternately long and short. The flowers occur more or less in clusters.

The branching of this low shrub is so peculiarly opposite, being like a many-branched candlestick, that it can be readily identified in winter. The little terminal branches are covered with a reddish skin, like the inner skin of a peanut, which is constantly shedding off. The toothed leaves are silvery and woolly beneath.

Both this shrub and the preceding one can be found from the foot to the summit of all our mountains, except on the bald-headed ones reaching above the timber line.

TINY-FLOWERED SHRUBS



LARGE diamond is more expensive than a dainty set which is studded with diamond chips, each showing a dozen faces; it is more expensive because it is rarer. But is it really as beautiful, with its broad faces, as the cluster of small diamonds that throw sparkles from thousands of tiny faces? Flowers are mounted in both styles and nature is lavish of both. Nor does rareness enter as an element here; it is a simple question of which is prettier, a single blossom of the thimbleberry with its five white petals, or a feathery spray of spirea with its myriad of tiny blossoms. And one is always prettier than the other—the one that you happen to be thinking about at the time.

Of these shrubs that show large clusters of tiny blossoms, there are two in our mountains that are above all others beautiful. They are the ninebark, with its globular clusters of white and pinkish flowers, and the mountain spirea, or meadow sweet, with its long graceful plumes of delicate cream or rose colored blossoms.

Along the streams of our lower canons are rather large shrubs that are adorned with clusters of

TINY-FLOWERED SHRUBS

white flowers. Many people, guessing at the name, have dubbed this shrub the Rocky Mountain snowball, and so well have they spread the name that it is quite prevalent locally. But it is purely a local nickname, a pet name within the family circle of Pikes Peak; elsewhere, the shrub is known as the ninebark. It is not so distinctly spherical and not so pure a white as the cultivated snowball; and its size is about midway between the true snowballs of our gardens and the snowballs that the Fiji islanders throw at policemen on the Fourth of July.

The leaf and structure of the shrub are quite similar to the thimbleberry, but the blossoms are small and clustered in little balls from one to two inches across. The five spreading petals are joined at their bases to form a little cup, around the rim of which is found a circle of stamens. Within the cup are the ovaries, or seed cases, which are partially grown together.

Look carefully at these. If there are only two of them, and the shrub is less than three feet high, and is found at a good elevation in the mountains, you have the species known as Colorado ninebark (*Physocarpus monogynus*); if, on the other hand, there are from three to five of these ovaries clustered in the center of the cup, and the shrub is from three to six feet high, and found along the streams

NATURE NOTES

at a lower elevation, you have the prairie ninebark (*Physocarpus intermedius*.)

We have a third species which you are not so likely to meet; in fact, most people seem to overlook all three of them—like everything else but their meals.

Even prettier is the spirea. It blossoms in mid-summer. If you would take a bunch of lilacs and pull the pyramidal cluster out so it was looser and more fluffy, make the blossoms much smaller and color them a rose-tinted white or a cream, and then cover a gray shrub with them so that they drooped from every branchlet like long plumes, you might have our mountain meadow sweet or spirea (*Holodiscus dumosus*). Each tiny blossom resembles a little star, with its stamens radiating from the center like beams of light.

The mountain meadow sweet is not truly a spirea as its generic name shows, but it is so nearly one that it is entirely proper to call it the mountain spirea. Whatever we call it, we cannot but admire from season to season its glorious cascades of blossoms drooping from each overweighted bush.

INCONSPICUOUSLY FLOWERED SHRUBS



IF WE stay away from the creek bottoms and save their shrubs to consider on some rainy day, we may be able to finish with the most conspicuous shrubs of the dry hillsides in this paper. To be sure, we have not yet considered the gooseberries and currants. If you know the general character of these shrubs, and remember the simple rule that gooseberries are armed with spines, while currants are unarmed, you have gone far enough, for even the man who named the different species can not tell them all apart.

The commonest shrubs of our dry hillsides are the scrub oaks, with their shiny, many-lobed leaves. Sometimes almost prostrate and at other times reaching and straining to such a height as almost to be trees, they form dense thickets that tear the clothes of young America when he marches upon the magpie's nest, serve as food for cattle when better forage fails, and give a rich tint of green to hills that would otherwise be barren. We have from half a dozen to a dozen different species in this region. They are told apart by the simple rule that they all look alike—they were simply made to embarrass

NATURE NOTES

scientific botanists. One of the mildest and least profane scientists of my acquaintance gives as the scientific name of the whole pack, "Quercus damfino."

Often occurring with the scrub oak, especially on dry mesas and hillsides at lower elevations, is the skunk bush (*Rhus trilobata*). The clump is very round-topped and four or five feet high. The leaves are a yellowish green and the leaflets, always notched at their broad end, are sometimes three lobed. The flowers are in yellow spikes, small and not at all attractive. They are followed by red berries. If you suspect a shrub of owning this sonorous name, break off a branch and smell the broken end. If it is strong and has character, it is the skunk bush. Some people like the smell; it certainly does not resemble the odor given off by its little black-and-white friend of the same name, but it has the same virtue of persistence, "like the postage stamp, my son!" If through an unfortunate personal experience you dislike the name "skunk," you may correctly call this shrub the "unsavory sumac."

More often found in the shade of a canon bottom, but still quite often found on the mountain sides, up to an elevation of 9,000 feet, is the Rocky Mountain maple (*Acer glabrum*). This is a small brother of the tree maples, and is never quite large

INCONSPICUOUSLY-FLOWERED SHRUBS

enough to be called a tree. Its gray branches grow in clumps to a height of ten feet or more. The leaves are not five-lobed as in the shade maples of our streets, but are smaller and have only three lobes. Another distinguishing character is that the leaf stems are red, as are also the winter buds. Of course, all maple trees have their leaves opposite each other on the branches. This is a shrub well worth knowing and adds its characteristic beauty to every mountain landscape.

The sprawly gray clumps of mountain mahogany (*Cercocarpus parvifolius*) are almost as common and characteristic of our mountains and foothills as is the scrub oak. It will most often be met with on a hot, barren slope. Many people call it, incorrectly, sage brush.

The flowers are parodies on the name. They are little green cups, less than a quarter of an inch across, which are fringed with a ring of stamens. They are almost hidden by the foliage, though they are borne on little fuzzy stems a half-inch long. From the center they develop a long stalk which reaches out prominently an inch or two. This is covered with fine, silky hairs, and in a few weeks, when it becomes dry, it will curl into a long spiral thread which is the most distinctive feature for identifying the shrub.

THE ORIOLES



T SOME glad moment was it Nature's choice

To dower a scrap of sunset
with a voice?

Or did some orange tulip, flaked
with black,

In some forgotten garden,
ages back,

Yearning toward heaven until its wish was heard,
Desire unspeakably to be a bird?"

When the riot of spring has intoxicated you, and you hate to leave some sunset view for the mere purpose of eating, take a resolve to arise early on the next morning. When the cool dawn slides in through the open window, the snug sheets will beg you to break your resolve. But hold to your purpose. As your feet echo along the deserted streets there is nothing to fascinate your half-opened eyes. Your path leads you down through fields of dew-jeweled green to the sinuous length of Monument Valley park. You grow keen to the beauty of it. Whir, goes a pheasant through the grass, and your hair stands full on end! The bird chorus is rioting on every hand.

From a dense clump of green before you leaps a tongue of flame. It is an oriole. He perches on a



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YELLOW LADIES' SLIPPERS

THE ORIOLES

low clump of bushes and you cautiously approach. He is the first you have seen since they left last fall with the flame-colored autumn leaves. You draw in your breath as you behold him. You had forgotten there was a bird so beautiful. Oh, what color! Blazing orange on his breast and up the sides of his head, it even reaches as a small band of color over his forehead. How it contrasts with the jet black chin, the black crown that widens on beyond into an ebony covering that clothes all of his upper parts. Right through the intensest orange a black line is penciled over each eye. He cocks his head around toward you, spreads out the black wings patched with purest white, and disappears as a brilliant streak of color. You breathe again.

How few birds are really known and how few bird names are found in our common speech. A small dozen or two there are, and one of these is the Baltimore oriole. What is there of beauty or romance that makes the word Baltimore inseparable from oriole? A child, unlearned in bird ways, will recognize this daring burst of color and instinctively call it the Baltimore oriole. But it is not. It is an even prettier bird, with a much less poetic name. It is Bullock's oriole (*Icterus bullocki*), and is the commonest oriole in our state. The Baltimore oriole (*Icterus galbula*) is very rare in Colorado, as its

NATURE NOTES

range is farther east. It can easily be told from the preceding by the fact that its head and neck are solid black all the way around; it lacks the delightful contrast of the orange running up each side of the head.

When the trees stand bare in their long columns on either side of a snow-buried road, the oriole's nest shows best, hanging pensile from the leafless branch. But now it is harder to find, hidden in a mass of leaves. Difficult as it is to reach, it is well worth investigation. It is deftly woven of shreds of wild flax, and inner bark and such materials, and within is lined with strings and hair, or even vegetable down or moss. What a cradle for the half-dozen bantlings that swing there! Who built it?

A yellow and gray bird, inconspicuous, indeed, flies from one of the nests. That is no oriole! No, indeed; that is only an oriole's wife. He is such a dandy himself that he couldn't afford to dress her very well. But he cannot suppress her genius. It was her bill that built that wonderful basket there, stuffed with babies.

THE BADGER



OME of our animals are burrowers and some of them have astonishing excavating ability. But there is none to surpass the badger. Think of a heavy-footed, clumsy animal, as large as a small dog, who will attempt the underground pursuit of a prairie dog, gopher or spermophile, and following the tiny tunnel enlarge it enough to admit his bulky body and soon overtake the unfortunate. This is the badger's regular method of feeding. He is a subterranean boat that is as sure in its deadly attack as the much-dreaded submarine. If he were only civilized and could carry a couple of high power bombs in his vest pocket as he tunneled around under us, what a war hero could he prove himself!

Plainsmen, who have had their horses foul in a badger's hole, know well enough that he is not at all uncommon on the Colorado plains. Mountaineers, who have lived their lives with the wild folk, know the badger's ways. But the average run of us, even the city bred naturalists, who do most of their stalking up and down our streets or in our public libraries, know little more than that there is such an ani-

NATURE NOTES

mal. They would hardly believe that this tunnel-digger ranged from the plains to timberline and was not at all rare in our region.

Last Sunday morning a good old mountaineer showed us a few things about one of these animals. He was out on his regular morning rounds and located a badger under a big boulder within a hundred yards of the upper pavilion on Mount Manitou. He explored the rock and found that he could not dislodge the badger without help, so he called some of the younger men on the place from their breakfast and they exhausted their wits on that pile of rocks. Smoke was not effective, sticks and digging did no good, so a hose line was connected, but the water ran through like a sieve. The young fellows became discouraged and left the job, only returning now and then to change the hose and watch the old fellow guarding the hole beneath.

After the game had been going on for about three hours, one of them was rewarded when he sauntered down that way by seeing the badger make a clumsy dash for liberty. The old boy jumped after him and caught him by the neck, but the badger turned in his tough and loosely rolling skin and bit him savagely. The old fellow just grabbed him tighter and began to shake him until he lost his balance and they both rolled down the mountain side,

THE BADGER

fighting like mad. He shook the poor badger until he was so exhausted he could not shake any more, but the fight was won. The young man was coming down the hillside lickety split, but he was too late to be of much help.

The old mountaineer let him carry the prey up the hill, but he walked along close by, sniffing at it and growling all the way. And when Mr. Badger was placed out on a box to dry, he stretched out on the ground and watched him, lest there be some treachery. Panting from his labors, with his long, red tongue lolling out, he looked up proudly as we all came to inspect his kill. He was a proud dog.

That badger was armour plated. His hide was so tough that the bulldog's teeth had not even pierced it. And his skin would roll so loosely on his solid body that it is a great tribute to the dog's fighting ability that he could dispatch his foe so quickly. Many a good dog has changed his mind before he got through with a badger. I would have been sorry for the cold-blooded murder, except that the half eaten body of a rock squirrel was left by the deceased. Kill and be killed is his game, and, since he is seldom seen and our squirrels and chipmunks are such a delight to us, it may be well that their enemy has discontinued business at the old stand.

NATURE NOTES

A badger is about two feet long and has a very flattened, short-legged body. His front feet are provided with wonderful digging tools. His fur is long and rather coarse. Each hair is a light tan on the lower half and then black and finally white tipped. This gives him a rather grizzled appearance, somewhat transversely striped on the sides. There is a conspicuous white stripe running from between his ears to almost the tip of his nose. His head is peculiarly flat and wedge-shaped, and he is sharp pointed at the fore end like any approved under-sea or under-land craft.



WHISTLING MARMOT



THE LAZIEST animal in the world," is what some people call the common eastern woodchuck. He spends most of his time sleeping in his burrow, only ambling out into some garden patch for his meals. He works a bit when he digs his tunnel, but never puts on any needed improvements after he is once settled. If an attempt is made to dig him out, he will tunnel on ahead of his pursuer, throwing the dirt behind him like a mole. But this is a rare burst of energy and only goes to show that he is equipped to be a splendid miner.

The western woodchuck, however, doesn't even have to show this much energy. He is a mountaineer and usually takes up his abode in a pile of granite boulders. Here he finds crevices and ready-made tunnels, so that very little digging is necessary. He may, with a few energetic exceptions, be called an ex-tunneler. While he ranges from above timberline to almost the foot of our mountains, we think of him usually as being confined to the high altitudes. Aside from a big fellow who used to sun himself on the pile of boulders known as the gateway to Crystal Park, I have never met one except

NATURE NOTES

high on Pike's Peak. That is where I like to think of him.

Ground hog is the other name he is known by, but let us adopt the Old World name, which is used quite extensively here, and call him the whistling marmot.

He is a little larger than a badger and is very fat. His color is a grizzled brown, due to the black hairs which are yellow tipped. He has a sort of rounded snout and a rather stupidly philosophical expression surmounting it. His tail is rather bushy and his little black feet seem gloved. There one lies, out on the big granite boulder, taking in the view and soaking in the sun. Below him winds the auto road. Black specks line it on either side. A larger speck darts along it with a trail of smoke and dust behind. What are they doing? he wonders. And he stretches out in a more comfortable position and looks out over the storm-threatened plains.

Here he rears his young. Few enemies they have to fear up here on top of the world. The scant Arctic vegetation is enough to keep them fat, and they do not have to share this forage with many other feasters. In the evening, when they are out taking their supper, several may be seen at once, clumsily scurrying around through the boulders of the slide. Snow will drive them down into their

WHISTLING MARMOT

underground dens and perhaps hunger will again drive them out before the spring thaw has completed its work. But what matter, when there is nothing to do but eat and philosophize on the world that lies below you. Hamlin Garland painted this life well when he wrote:

“On mountains cold and bold and high,
Where only golden eagles fly,
He builds his home against the sky.

Above the clouds he sits and whines,
The morning sun about him shines;
Rivers loop below in shining lines,

He sees the pink snows slide away,
He sees his little ones at play,
And peace fills out each summer day.”

BLUE BELLS



HE OLD fairy sexton hobbles over to a clump of rocks and rings the tiny blue bells. They peal and tinkle and the young fairies dance riotously in the grass. Looking at that tuft of delicately fragile stems, with their drooping bells of bluest blue, as the wind catches them and they sway freely back and forth, we can almost hear the tinkly little tones and see the elves gamboling about. Those exquisite blossoms will lead the imagination as near to fairyland as any flower that nods in our mysterious mountains.

Sky-blue and bluer, they hang from the tiniest hairlike stems. These, and the slender leaves, seem but wisps of green. A tangle of gossamer threads, they stand in a little clump a foot or more high. Swaying as lightly as butterflies, a little bell hangs down from the end of each green thread. Ladies' thimbles, they are sometimes called. As each bell opens out, its edge is deeply cut into five flaring petals. Hats for fairy kings they could be, or bonnets for tiny little girls.

With what a world of romance are the "blue bells of Scotland" freighted. These flowers have

BLUE BELLS

come to mean for us high cliffs jutting up from clear-blue lochs, open heaths with the wind playing over them, strong men and sweet women. The blue bells of Scotland—would you like to see them? Come with me up into our mountains, and where the spray of a dashing waterfall wets the jagged cliffs, or high out upon a point of rock that stretches skyward, or deep in the waving grass upon some windswept hillside, I will show them to you. Yes, we call them hare-bells, or hair-bells, if you wish (*Campanula rotundifolia*); but they are all our blue bells; they are, indeed, the blue bells of Scotland. On English heaths, on Scottish crags, from Laborador to Alaska, on every ridge of mountains that furrows our land from the Atlantic to the Pacific you will find them; wherever you find the wind singing and the sky blue overhead, you will find these hardy mountaineers. There are some things that God has not limited to any nation or any bit of land—the open sky, the bracing wind, and these exquisite little bells of blue.

In the early spring, in shady spots, you will find a wealth of tiny blue flowers that most people call blue bells. Each stalk is clothed with broad clasping leaves, and near its end flaunts a spray of blue, somewhat bell-shaped flowers. Each little flower droops by a tiny thread from this leafy stem, and

NATURE NOTES

often they all hang down from one side of the bended stem. From shades of pinks to light blue the flowers vary. Each has a slender tube, half hidden by the five lance-like sepals, which suddenly flares out into a shallow cup. This is five lobed on the edge, for the corolla splits into five rounded petals. There are several species in the early spring, the lance-leaved mertensia (*Mertensia lanceolata*) being the commonest. Later in the summer we mainly find the streambank form (*Mertensia ciliata*) with stems a yard long, which droop over and almost hide many a mountain streamlet. We can call them blue bells if we like, and use the name hare-bell to designate the real blue bells. But that won't quite do; why not call these beauties merten-sias—which name is scientific, to be sure, but just as pretty and graceful as any common name—and reserve “blue bell” for our delicate beauties of the rocky heights?

Up high against a snow patch you will find a rosette of short stems each of which is tipped with the deepest of blue blossoms, crowded into a tiny head. They are wonderfully fragrant, rather extravagantly so, having the perfume of a highly scented toilet soap. Most of our visitors who make their pilgrimage to the top of our stern old peak, do not bother to look for them in the little patches of

BLUE BELLS

earth between the rough boulders, but are content with seeing them growing in thread-tied bunches, in a little brown basket carried by a pretty flower girl. And each carries away a little bouquet of these alpine beauties.

Our Pike's Peak forget-me-nots are only cousins of the forget-me-nots of our gardens. They are really mertensias (*Mertensia alpina*), being the stunted and dwarfed variation of the flowers we found concealing the tiny creek at a lower elvation.



THE SHARP-SHINNED HAWK



WE CHANCED to drift down Dingle Dell the other day, and there we saw an old abandoned nest of a sharp-shinned hawk. This nest was no new find to me, for several years ago I used to be a regular, though uninvited, visitor there.

When I first found that nest it had four large eggs in it, and I came back every day to count them. Of course, the mother didn't like this very well; but, instead of ordering me off the premises, as any self-respecting bird would have done, she simply flew up into a nearby tree and cried about it. Farther down the dell, a little Mrs. Junco was keeping house, who was so small that she would scarcely make a good mouthful for the hawk, and yet she stood up for her rights. But the hawk was too much of a coward to stand up and fight. Or, perhaps, she was grieving about her husband, who was never seen about the place, and who we believed had either run away from home or else left the poor soul a widow.

One morning I found that one of the eggs had blossomed. And what a cute little thing had taken its place. Next day it had a brother. And the third member of the trio put in an order for meals on the

THE SHARP-SHINNED HAWK

following day. But I waited and waited for the fourth. It was very late in coming, and when it did arrive it was so much smaller than the others that it had a hard life before it. But that life was only one day long, for there was no sign of him on the following day, and there was some slight evidence of his brothers and sisters having loved him to death and pressed him against the insides of their breasts in small pieces. They, at least, looked the part.

Imagine a little cream-colored teddy bear, with a little black hook on one end of it that had two shiny black eyes nearby. As round as an Easter chick they were, but their little hooked noses gave them a character of their own. Did they cry like their mother when we came near or even lifted them out of the nest? No indeed! They cocked their wise little heads around and said as plainly as they could, "Go ahead, old boy, this is your innings! But just wait until we grow up, and it wouldn't pay you to keep chickens in our part of the country!"

What sport to watch each day's development! Real feathers soon began pushing through the natal down and made them into veritable little ragamuffins. They were getting dangerously large, so I took up the camera. I only caught one, and he was quite sulky as he sat up and had his picture taken for the rogues' gallery. No longer was he a cute

NATURE NOTES

little thing. He had now become a dangerous hawk, and, sentiment or no sentiment, our duty lay before us. We were as kind as possible about it, and even then I had to console myself with the memory of the remains of the glorious hermit thrush we had found at the nest, and the flickers and others of our best bird friends.

Not because he was a hawk did I kill him. No one, under any circumstances, has any right to kill a hawk unless it is a harmful species. The sharp-shinned hawk (*Accipiter velox*) is one of the worst. It is a small hawk, about a foot long, slaty blue above and white below, mottled with tawny, irregular cross-bands of dusky. But to a novice it will look like any hawk; and, therefore, it is much better to let them all live than to risk killing one of our valuable allies. Don't monkey with nature's band wagon unless you know at least a little about the tunes.



THE YOUNG SHARP SHINNED HAWK

LARKSPUR AND MONKSHOOD



OUR PRETTIEST flowers have been dipped in blue. Sir John Lubbock in discussing "blue, the favorite color of bees," expresses the belief that back in the evolutionary dawn of flowering plants all blossoms were green, then white or yellow, and generally red, before becoming blue. Highest in the scale of life, they make the greatest appeal to the fancy. Recall Keats' sonnet to blue.

Out upon our plains, filling dry arroyos with a sea of blue, or standing in tall blue shafts against the dark green foliage of a shaded mountain dell, will be found the exquisite stalks of the larkspur and the monkshood. They are alike and unlike. The leaves are divided into many radiating segments from the leaf stems. The flowers are borne on elongated spikes that top the leafy bushes by several feet. But the flowers of each are very different.

The tall stalks of the monkshood are almost restricted to the shady mountain valleys. Here they stand in the dampest soil close to a tiny stream. The stalks may only reach to your waist or they may stand higher than your head. Scattered along the stem are the dark purplish cowls of these mountain

NATURE NOTES

hermits. The upper petal forms a definite hood or helmet which encloses the flower and from the base of which the other petals spread. Here and there a specimen may be found that has reverted back to the original type, the yellowish-green blossoms of the evolutionary dawn. In some of the mountain valleys none but these cream colored blossoms can be found. But they are all of the same species of monkshood (*Aconitum columbianum*.)

You may recognise in that generic name the source of the medicine aconite. From the dry tubers of plants of this genus the poisonous aconitine is obtained. Some of the east Indian tribes prepare an arrow poison from it so virulent that a mere scratch from the tip of the envenomed weapon will kill a tiger in a few hours. Children playing wild-men in the woods have eaten these roots and died, and have even been poisoned by sucking the nectar from the blossoms. These beauties may be gathered and handled and admired, but they were never meant for eating by any except candidates for eternity.

Not so dark a blue has the larkspur. It is almost streaked with bluish gray, and the yellow centers of each flower can be plainly seen. Here the upper petal forms no hood, but is extended backward as a spur, similar to those of the columbines.

LARKSPUR AND MONKSHOOD

In front it joins in a circle of blue with its companion petals. Down on the plains grow several low varieties of this flower, but here in our mountain meadows we find the tall larkspur (*Delphinium glaucescens*). Its blue spike stands high above the waving meadow grass, for it grows out in the sunny open places rather than in the damp shady retreats so pleasing to its cousin the monk.

But beautiful as it is and admire it as we may, it is hard to convince a western stockman to appreciate it. Many have lost five per cent of their stock each year from poisoning by this plant. Had you lost two hundred head of cattle in one season your aesthetic appreciation might be dulled. On ranges where the plant grows in abundance, it is eagerly eaten and it is no rare sight to see a cow stagger and fall on the ground; it may kick convulsively and at last regain its feet, but in a short time it drops again and before long dies. Strange that this flowering lark dropped from the heaven's own blue should be so fatal to the grazing herds.

PIKE'S PEAK BIRDS



UPON THAT daring thrust of granite, which braces itself against the blue, one would expect to find things in extremes. The commonplace is not suited to its frozen heat, or to its blistering cold. Standing on a patch of iced snow, in the full glare of the sun, you are blinded by its untempered rays. Sleet and snow may fall within a half hour; and then, again, the sun will burn out and blister your skin. Nature is naked here, there is no false glamour. And her elements fight, one with the other, without giving quarter.

Here a great glacier has gouged out a deep pocket in the east side of the Peak. The pitiless ice has bitten back into the granite until the huge boulders have fallen onto its back and have been carried down into the valley. A sheer cliff of granite stands perpendicular, its rim almost touching the summit, its base rising from a tiny mirror lake. We call it the crater, but no volcano fashioned that hole—it was ground smooth by ice, cold pitiless ice. If we should step from the rim it seems that we should shoot like a plummet into that tiny drop of lake twenty-five thousand feet below us. All about are

PIKE'S PEAK BIRDS

desolate boulder fields. What bird could make a home up here?

A spot comes out from the cliff, it tacks and sails until it rises higher and higher, and we can see a huge black bird climbing out of the limbo below. It is clothed in the blackness of death, and its wings move with a heavy sinister slowness. As he sails out above us, we see the wicked black head peering from side to side as he utters his harsh croak. Down the slope we saw the half-eaten carcass of a burro. The bird wings his flight to this and settles down to tear the rotting flesh. Another disciple of death joins him and they croak and quarrel as they walk over the torn hide.

They make a picture that would surely inspire a Poe to believe them capable of crying "Nevermore! Nevermore!" We take another step, and with a startled croak they flap into the air, those long black wings, a yard across, flap and flap, and they rise away from us, craning their heads around to see our intent. Then they make their way towards the Summit house, probably to pick up the scraps in the garbage heap.

These ravens (*Corvus corax sinuatus*) stay up here the year around. They are believed to be increasing. And it is thought that they nest on ledges, half way up the sheer cliffs of the barren crater.

NATURE NOTES

The clouds have marched upon us and we slowly trudge up the greasy track, in a world of somber gray. Wet snow falls rapidly and soon the track is a half-inch thick with white. A little chirp comes up from the track and there we see a baby bird fluttering between the rails. With a mighty effort he clears the rail and is joined by his parents, who lead him down over the rocks. We shall follow.

Already the wall of gray is beginning to break and in a half hour the cloud has blown past and we are in the bright sunshine. We are still wet and very cold, but there hopping about in the slushy snow is a cheerful feathered sunbeam. It is the pip-it or tit-lark (*Anthus rubescens*). All the rocks seem alive with them. They are out laughing at the welcome sunshine, and it is a sweet little note they utter as they run over the rocks. They wear a grayish-olive suit which is buffy-white underneath. The outer tail feathers show a flash of white. They can't stand still, but rhythmically squat or teeter. This is their home. They rear their babies in grass-lined cups under the cold boulders, and add a touch of cheer to these cold heights.

THE DUSKY GROUSE



HE MIDDAY stupor is on the valley; the plants seem to sweat; the smell of them is in the air. Even the dark green kinnikinnik looks hot and, here and there, a ripening berry burns red. There is no breeze. Only the rasping sibilance of a noisy grasshopper and the dull drone of a fly can be heard. Your thoughts are half in sleep when suddenly from below your feet, bang! up springs a threshing machine with wings. Your hair jumps straight on end as a huge bird with awkward wing strokes clears a nearby clump of bushes and squats.

As you sneak cautiously around the bush you see him walking stiffly about on the other side with his head cocked inquisitively. You would laugh, but it is much too serious. "He ain't got good sense." If you walk quietly enough he will cross your path as indifferently as a barnyard fowl. Then all of a sudden he decides to go. He throws a young fit, and his wings rush into panic. You were waiting for it, but you jump in spite of yourself—he makes such a noise as he starts. "Fool hen" they call him. Yes, him! It's a he hen and they are worse. Did you ever see a prim little old man who was meant for skirts, but

NATURE NOTES

slipped into pants by some odd chance, try to get a family of ten loaded onto a train? I have. But he had nothing on a grouse of my acquaintance. They should strike up a partnership, for it would be worth admission to see them do anything.

Our only grouse is the dusky grouse (*Dendro-gapus obscurus*). He is a slaty-blue above, mottled with grays and browns, lighter beneath and has a pale slaty band across the last inch of his tail. His wife is dressed much the same, but is a trifle smaller. They feed almost exclusively upon berries and green things, and in the winter have to content themselves with eating spruce needles and buds. To be sure, if a foolish grasshopper ends his buzzing flight within easy reach, even the grouse is wise enough to eat him.

The state keeps its insane and soft-minded in a guarded institution some forty miles south of here. But even the state takes its protection away from this weak-minded bird, for a few months in the fall. Then the hunters flock to these kinnikinnik-floored valleys where the grouse hold their family reunions. It is indeed a misfortune to be both simple-minded and very good to eat. After a time the grouse who haven't been able to find a hunter and cavort around in front of him, get disgusted with the whole race of humans and have absolutely nothing to do with

THE DUSKY GROUSE

them. Then they become as wary as a deer and it is a wise hunter who can find them.

I know of a trail that winds around an exceptionally hot slope which is scraggily grown with perspiring scrub oak. Every day as I came to a hot bed of kinnikinnik on this trail an old lady grouse would start a terrible rumpus, break a leg or something equally as extempore, and flutter off through the thicket. I bit the first time, and the little rascals that she had under her charge all gave me the slip. But thereafter it became a game. She would lead and I would follow, with my eyes on the kiddies. I would mark where each scurried and then see how close I could come to catching it. The old lady would go crazy and the little chaps lost their heads entirely, but after I had run around that hill—as foolish as any grouse within twenty miles—for about a half an hour, I would succeed in losing most of them, and get back to the grind of the trail and remember once more that the sun was overhead. But it isn't as hot when you are chuckling. And who could help chuckling after seeing that three-ringed circus go insane?

THE LILIES



HEY are all gone now, the wild lilies of our mountains, their seeds are blown and their stems are withered. The quiet bulbs are dropping into the long sleep of winter, with next year's blossoms tucked close within them. We no longer see them on our walks, except for an occasional sleepy onion whose drooping blossoms nod half-withered on a lonesome stem. When the master artist took the plan of six and designed from it the simple chalice of a lily, he made a flower that took strong hold upon the hearts of men, the very name of which is inseparably woven into the fabrics of our most beautiful ceremonies. From the warm burst of the first tulip, blazing above the melting snow of the garden, to the chaste ivory of the Easter lily nodding in its purity before the altar, man's heart goes out to these flowers. But too often he limits his associations to the pampered lilies of the greenhouse and of the formal garden, and forgets the glorious mariposa lilies of the field, and the flame-colored tiger lilies of the shadiest mountain dell.

Frisking and dancing along in front of spring's band wagon are a joyous troop of little flower child-

THE LILIES

ren; the jolly anemone, the ragged sand-daisy, and the dainty little white mountain lily—sand lily we more commonly call her (*Leucocrinum montanum*). An exquisite little lady she is, with her waxen white skin and the flash of golden stamens. Basking in the sun-warmed gravel at the base of this jut of red sandstone, we see a rosette of very long and slender dark green leaves. In their midst is a cluster of pure white stars, centered with gold. A fragrant breath of perfume rises from them. The white tube of each blossom reaches down thru the gravel to the fleshy root, leaving the six spreading petals almost prostrate on the ground. But, small and stemless as it is, it laughs out to us the promise of the coming procession.

The wild onion is a rare beauty, whose feet, alas, smell all too strongly. Like the peacock, its feathers are handsome, but its feet are its shame. Shall we think less of either because of that which they can not help. Quit scornfully sniffing at your fingers there, and pick up that cluster of little blossoms that you just threw down in such disgust! That tiny leafless stem is as slender and wiry as a rush. A foot high, just enough to clear the tops of the grasses, it waves; then nods over at the tip and holds that swarm of tiny flowers. Like a burst-ed sky-rocket, the little pink flowers stand out from

NATURE NOTES

the stem on tiny green wires an inch long. Each blossom, a veritable midget itself, is made up on the plan of all lilies, with six petals. They form here a tiny closed cup, thru the tip of which push a few inquisitive stamens. This is the nodding or sleepy onion (*Allium cernuum*). Up above the limit of tree growth can be found a delicately tinted dwarfed form which is called the alpine onion (*Allium Pikeanum*) And perhaps you remember the cream colored wild onion of early spring (*Allium reticulatum*) which was daintily spotted on each petal with brown. They are pretty, these onions, and to a man who has lost his sense of smell they would be rare flowers indeed.



TIGER AND MARIPOSA LILIES



OW different are these largest of our wild lilies — the lady and the tiger! A modest cup of lavender nodding on a slender stalk, and a flash of red standing stiffly on the top of its proud stem! Leave the trail and break your way thru the tangled bushes along a little creek in our mountains. The narrow flash of water loses itself under the green and then splashes down over a pile of moss-covered boulders. The bushes suddenly widen out and leave a little make-believe meadow along the creek, a few strides across. Deep grasses, flower-starred, carpet its tiny floor; and the little ribbon of silvery water flutters down thru it. The birches and willows ring it in and their brown stems lock together over the timorous creek as it plunges out of sight on the farther side.

A flash of brilliant red burns in the green at their base and seizes your attention. What daring red! You hurry to it. It is the tiger lily. Six orange-red petals flare out, cup-shaped, from the end of an erect stem. Within and towards their bases they are tinged with yellow. They curl back gracefully at their pointed tips. The bases are nar-

NATURE NOTES

rowed into slender claws. Out of the center stands proud and straight the mormon pistil surrounded by its six erect stamens. The pistil looks like a match with a burned head and the pollen boxes on the stamens are black and half bow-curved.

What a proud beauty it is. There is something wickedly daring about this flower. Clothed in the bold color of sin it scornfully holds its proud head up above the other flowers. And it is beautiful, startlingly so. But it is not a satisfying beauty; there is too much scorn in its curled lip to win the love of a simple flower gatherer.

The tiger lily that you will see in the gardens of the east, and which has escaped from them into the nearby fields and woodlands, is not the same as our blossom. It hails from China and its spotted petals curl clear back to the stem and its blossom is nodding. Mountain lily (*Lilium montanum*) is our flower's real name; tho here in our mountains when we see its bold spotted cup we think of it always as our tiger lily.

On a sunny grass grown slope in the foothills, or in some broad mountain valley where the wind ripples a shiny track thru the waving stems of the taller grasses, we find the beautiful mariposa lily. A simple cup of lavender, it half nods on a slender

TIGER AND MARIPOSA LILIES

stem, sheathed with narrow clasping leaves. Its three broad petals form a deep cup and gracefully flow out into its broadly flaring lips. Wonderful shades of lavender and tinted white and purple are found in these blossoms. They are delicately streaked with darker shades. Down towards the base of each petal is a patch of vivid purple, the nectar fountain of the bees, ringed around with a circle of golden felt which stands guard over the treasure to keep out ants and other crawling thieves. This is the mariposa lily (*Calochortus gunnisonii*). Mariposa is a bit of Spanish imagery, meaning in that tongue butterfly. And our blossom is indeed among the flowers what the butterfly is among the insects.

To me there is no flower that is prettier. Even the lovely columbine with its cerulean blue and white and its long graceful spurs must take a second place.

In Cologne is a cathedral that has taken centuries to build. We marvel at the awful beauty reverently fashioned into it by devout builders. Its million spires, its sculptured columns and its darkened windows of painted glass, all oppress the soul with their terrible beauty. But if we could stand out under the blue sky of Greece, on one of the rolling hills that overlook the open sea, and gaze upon the marble purity of the Parthenon before it was

NATURE NOTES

wrecked by time, would not our souls reach out more strongly to the infinite. Its simple lines, its purity of conception, have more of worship, more of beauty in them, than the complicated, detailed, immensity of the dark cathedral.

So with our flowers. Our state flower, with its bizarre shape, its many odd spurs and its contrasting blue and white is far more wonderful—we marvel at it. But the utter simplicity of the mavis's cup, its delicate tintings and its graceful modesty, all give it a more powerful grasp on our inner selves. There is something of the infinite in its delicate cup.



SKUNKS



HE gibbous moon hangs exhausted above the mountains and throws shadows over your shoulder. The morning star is climbing up over the tangle of cottonwoods that border the lonesome road. A milk wagon rattles past with its lantern aswing. The quiet is resumed and you plod on thru the darkness. Up by a summer cottage on the hill a dog barks excitedly as tho he were in terrible straits. A window flies up and a voice in kid curlers calls out, "John! John!" Lights begin to move from room to room. Voices blur into each other excitedly. A lamp comes out onto the little porch, held high above the kid curlers and a faded kimono. A frail young man in a pair of shoes, a nightshirt and a raincoat, steps cautiously out into the bushes with a little rifle. Father follows with a lantern which lights up his bare legs and bright bedroom slippers, and makes the cut-away with claw hammer tails, that he wears over his pink flannels, look somewhat grotesque. His whiskers reach out in front of his chin inquisitively and his lips suck in beautifully where his false teeth ought to be. "Don't shoot the

NATURE NOTES

dog! Don't shoot the dog!" he calls excitedly; "Go around to the left."

"I can't, there's poison ivy around there."

Zipp! goes the little gun in the wrong direction. The air is heavy with odor. Zipp . . Zipp! and then another cautious advance. The dog has quit howling and drags up a black and white striped animal, in which the hero can find no bullet holes. Then the poor dog eats dirt and whines pitifully. He got too much skunk.

Having a bad cold in my head today, it will be reasonably safe to discuss this pretty cat. If you are not equally blessed, why hold your nose and come ahead anyway. We shall wander down the moonlit road and look for a live specimen. If we are real lucky we shall succeed in finding none. Pursuing our researches in the library, we find that the skunk is one of the handsomest of our mammals and that thousands of its skins (no, not from one skunk!) are sold each year for furs. Further, it is one of the most lovable and intelligent of our animals and makes a splendid pet. And, thirdly, its flesh is not surpassed by any other mammal as a delicacy.

I believe the kindly author and take his word for it. I don't use furs anyway; I have a fondness for goldfish and canary birds as pets, and am perfectly content to eat plain cow in its divers forms,

SKUNKS

from gizzard to hamburger. There are firms who are now selling pet skunks which are guaranteed—"deodorized" they call it. But what if you got one mixed up with some real ambitious, wild cousin that dropped around to visit, and tickled him under the ribs and jollied him up a bit, and then — well, then!

The skunks are closely related to the weasels. But developing a genius as perfumers they gave up the agile life of their kind, incorporated a smell trust and grew fat and lazy. Being comparatively safe from attack, they have allowed themselves to grow too fat to be real good hunters. They seldom bring down large warm-blooded animals, but content themselves with grasshoppers and snakes— for which we owe them our thanks — and rob bird nests, eating the eggs and bantlings, and the mother if they can. Ordinarily there is nothing uncleanly or disagreeable about them.

We are well blessed in skunks, having three species in the region. On the plains and in the foothills we have the genus *Mephitis*. They are stocky animals nearly two and a half feet long with large bushy tails. Their color is black with a little white stripe down their nose. The white stripe running back of their ears forks into two broad white stripes which runs the length of the body and clear out to the tip of the bushy tail. If the tail is about one-

NATURE NOTES

third of the total length the specimen is the northern plains skunk; if the tail is one-half of the total length it belongs to the long-tailed Texas skunk. Our third species belongs to the genus *Spilogale* and is much smaller — about one and a half feet long, about a third of this being tail. The slender black body has six white stripes running the length of it, broken up into transverse stripes and spots on the hips. This is the Rocky Mountain spotted skunk and ranges higher into the mountains than the others. They are all nocturnal, and we fortunately see but little of them. But they all work just alike — efficiently.



PAINTBRUSHES



UDGING from the common red Indian paintbrush, one might think that these Indian artists were limited in their colors. But as one becomes acquainted with all the different varieties of this peculiar genus of wildflower, he finds that the pigments are without number and some of the tints found are truly exquisite. The predominant color is red, but this shades from a dark red into a yellowish red, sometimes tinted with lilac and purple and often tipped with white. Some of the flowers are entirely yellow or shade into a yellowish green. Only the blues are lacking from the color box of the Indian painter.

The small boy prefers to call our commoner red varieties bloody-noses. And there is more truth in his name than there is in the more elegant name of painted cup. There is little about the flower to suggest a cup. It is a solid brush of floral parts and has nothing cuplike about it. While Indian pink is a very common name, it hardly seems as appropriate as painter's-brush.

Let us look for a moment at the flower. The end of a stem seems to be all one flower, but on ex-

NATURE NOTES

amination proves to be made up of many separate blossoms. These do not much resemble a typical flower. The most conspicuous parts of the cluster are the long brightly-colored bracts. These are not parts of the flower at all, but are modified leaves. More or less enclosed by them will be found the blossoms. Each is made up of a somewhat swollen sac, the calyx, which is toothed at the end, and within this the corolla. The petals are united into a rather long beak above the short-toothed lip below. Within are the stamens and pistils. An individual blossom is not at all a thing of beauty, the chief beauty of the cluster being due to the brightly-colored floral bracts. Pull the next flower you find to pieces and see how very oddly it is built.

Up in the high mountains we still find the red varieties. They are somewhat different from the forms growing down on the plains and are seldom found in such huge patches. At the lower elevations an entire hillside may be red with them; indeed, they are so numerous on the plains in some sections as to have acquired the name of prairie-fire. But up in the mountains they are only found in isolated clumps, giving a patch of red to an aspen-green hill.

The flower that catches our attention at this elevation is the sulphur painter's-brush. It is found

PAINTBRUSHES

in quite extensive patches down in the moist meadowland along a creek. The flowers are a sulphur yellow shading into green. They give a breath of coolness to the landscape as they stand half hidden in the purple, hoary tops of the waving reedgrass.

But to see it at its very best, climb up above timberline and here upon the soggy, grass-grown meadows, you will find a much reduced variety of painter's-brush that is tinted with so many different beautiful shades that you feel its brushes must have been dipped in the colors of the sunset sky. There is a softness to these colors as they shade from deep purplish-reds, thru rose tints to warm yellows. On the same stalk all of these colors may be found insensibly running into one another. Here so far above the brick-red blossoms of our city's vacant lots, the colors are imbued with a delicacy of shading that defies you to make a choice between them. There are no two alike, and each is more beautiful than the others.

THE ENGLISH SPARROW



S THE street car left the loop at Manitou a few days ago, there was a terrible riot of bird voices overhead. The chattering and screaming indicated that something unusual had happened in the bird world. But as the car pulled away from the station the tumult stopped, except for the frantic cries of a bird mother, who flew back and forth above the car, and the frightened answering chirp of a baby from somewhere overhead. Then we gained momentum and the hysterical mother was left behind. From the roof of the car still came the plaintive chirp of the baby. Of course a few blocks at full speed, with the many hills and sharp curves of Manitou, would certainly land the little fellow in the street, where he could dust himself and wait for his mama to come and spank him for hooking a ride.

Any ordinary bird would have fallen off. But this was an English sparrow. He rode all the way into Colorado Springs and there we lost track of his career. But some bird biographer will some day surely relate how he came as a child to the heath-

THE ENGLISH SPARROW

en sparrows of our city to do mission work amongst them.

We need missionaries to our English sparrows. The only slums worth speaking of in the state are our bird slums. Have you ever passed thru the grounds of the Denver County court house, at about sunset? The scraggly trees about the block are fairly alive with sparrows and the sidewalks below are unevenly whitewashed by the host. These are the real Colorado tenement houses — thousands of families in a tree. Here is where the bird newsies and street gamins gather at night. During the day they dodge about between horses' hoofs and vehicles, and scratch and chatter and fight with an impudence that is fairly unbelievable. You will notice, too, that it is the foreign element alone that we house in our bird tenements. It is the immigrant horde from Europe that is the real problem in the bird world today.

The first sparrows were deliberately imported into this country about 1850. Some few were imported to satisfy a sentimental longing for home ties, and large numbers in the hopes that they would destroy an army of caterpillars that was hanging on long threads from trees in our eastern cities, and was neatly landing on the ticklish spots of passers-by. But the birds ignored the worms and gave their

NATURE NOTES

full attention to the propagation of their own race. They are the most successful birds in America today, from a purely biologic viewpoint; the worse luck for us!

The immigrant train probably reached our city in the spring of 1895. It is estimated that there were about 50 birds in town by the end of that summer, and that the number increased to 500 by the following year. The advancing legions moved across the plains about 50 miles each year.

Every house wife is acquainted with them. She and the sparrows play a little game all summer, called "Nest, nest, who's got the front porch?" and the sparrows usually win. We know of one case where a persistent pair built 13 nests in the same spot within a month, each more carefully and more spaciouly constructed than the last. Not until the thirteenth, which was over a foot wide, covered with a roof and with a tunnel-like entrance, was destroyed did they lose courage and change their homestead.

FIREWEED



COVERING the bare gravel below one of our mountain trails; concealing the ugly disfigurement of man on the half-reclaimed clearing of an abandoned Arizona homestead; pushing in upon the charred ruins of an Alaskan forest that has been sacrificed on the altar of carelessness to the great god fire; or even crawling along the fire-blackened embankment of a Siberian railway, will be found the glorious, flaunting stalks of our fireweed. From frozen Greenland to sunny California, from the cactus-grown plains to the spruce-shaded slopes reaching down from timberline, this red cross plant can be found ministering to the injured areas of our globe. First on the field after a forest fire, amongst the stumps of a deserted logging camp, along roads and embankments, it always seeks out the poorest and hardest soil and there covers up the unsightly places and paints them with its glorious red.

In many places you will find it called willow herb instead of fireweed. Its leaves are truly those of a willow. But fireweed is the commoner name, remembered by most people because these spikes of

NATURE NOTES

red blossoms do look like tongues of flame, but really deriving its name from the fact that this is the first plant to crowd in upon a recently burned area.

Above the willow-like leaves the flower stalk may be a foot or more long, with a large diameter at the base narrowed into a slender drooping point above. Each blossom seems to be growing at the tip of a seed pod. But not until later does this pod reach its full size and split open to let out the silky winged seeds to search for another bruise on the earth's surface. The conspicuous parts of that blossom are the four red or purple petals which spread out until they are almost flat. They are red, tinged with magenta, and sometimes they are quite pale.

But all of this color is not at all intended to delight the eye of man—much as we, in our conceit, would like to think so (nor the eye of woman either). It is a pure business proposition. In order to live, this plant must be cross pollinated, and to accomplish this it must have some outside agent. Let's see how clever it is at accomplishing its purpose. At the top of the spike are buds, and below these are newly opened blossoms. A bee is rummaging around in one of these hunting for the sup of nectar hidden in the center of the flower. As he does this a load of pollen is dusted on him from the eight stamens in the midst of which he is work-

FIREWEED

ing. Of course, some of this pollen would be dusted right onto the pistil of the same flower, and thus it would be self-pollinated after all.

Look for the pistil. It is curled in under the petals, like the tail of a frightened pup. And no pollen can the bee dust upon it. She now flies to another spike of flowers and begins, bee-fashion, to work on the bottom blossoms and then gradually move up to the top. Now these bottom blossoms have been open a long time and their pollen is all exhausted. The pistil has straightened up and its tip has divided into four sticky points, like an unravelled thread. This gathers up the pollen from the back of the docile bee and the trick is done. When all the pollen has been scraped off on the lower flowers, the bee has commenced working on the young flowers at the top of the spike and taking on a new load, which he immediately carries to the old pollen-hungry flowers at the bottom of a neighboring spike.

THE JAY BIRDS



INCE our blue jay is solid blue he is not rightly the blue jay. This name belongs to the eastern jay, which has blue only on the upper parts, white beneath, and white-flecked wings. Our handsomer bird is a sheer blue all over; but, in spite of his truer color, he cannot be called the blue jay. He is the long-crested jay (*Cyanocitta stelleri diademata*) and a handsomer bird it is difficult to find. He is a beautiful blue all over except on his head, where the blue becomes so dark as to be black on his long crest. He has a tiny white spot over each eye, just to give an air of vivacity — like the beauty spot below the eye of the chorus girl. His tail and wings are barred with black.

He is a wise old bird. Crafty and sure of himself, he persecutes the smaller birds and is a spoiled dandy. His harsh voice asserts his presence, and his ever-moving crest is most effective in the way of gesture. Many a tourist has stopped to marvel at his beauty. He can easily be called our most handsome bird.

The true blue jay of the east has been taken only a few times in the state, but is so common along

THE JAY BIRDS

the western border of Kansas that it seems probable that within a few years they will be fairly common here.

We have two species of jay which are blue and yet have no crest. They are the Woodhouse jay (*Aphelocoma woodhousei*) and the pinon jay (*Cyanocephalus cyanocephalus*). The former is more likely to be met with than the latter, and can be recognized by his longer tail. In the Woodhouse jay the tail is as long as the wing, giving the bird the general shape of a jay; while the pinon jay has more the shape of the crow, with a very short tail, distinctly shorter than the wings. Both forms prefer the foothills and lower mountains, seldom going higher than 9,000 feet. The pinon jays are quite often seen in flocks.

In our higher mountains we have another jay, without a crest, which goes by a variety of names—white-headed jay, rocky mountain jay, whisky jack, camp bird and camp robber (*Perisoreus canadensis capitalis*). It is found ranging about 1,000 feet below timber line. It becomes quite saucy about miners' cabins and helps itself to whatever it wants. The crown of its head is white and the rest of the body is slate gray, the wings being tipped with white. Unless one spends quite a bit of his time in

NATURE NOTES

the higher mountains, he probably cannot count this jay as one of his bird acquaintances.

But the prince of them all is the long-crested jay. The blue coat of our mountains, who commands silence from all the other birds, enforces his laws with an iron hand, but we will have to confess this police force to be a little corrupt in its morals.



THE ORCHIDS



THE rear guard is passing. Everyone is familiar with the march of the season, and the gradual succession of bloom. But it is particularly interesting to watch this in one family. It then ceases to be a procession and takes on the aspect of a human family out for their Sunday afternoon walk. Running along in front are the cute little tikes, that delight all passers-by. Behind them walk the parents, well dressed and dignified. Then, perhaps, comes the odd-looking, older sister who walks aloof from the rest and meditates upon the world. And tagging along behind are the older children, with flowing hair, and giggles and general unconcern and happiness.

Now that is just the way with the orchid family. Running along ahead of the rest are the little spring darlings, the calypsos (*Calypso borealis*). They are honey-fragrant little waifs with the rosiest of rosy cheeks. Imagine, if you will, a little pink or red sac, somewhat wallet shaped, which is lined within its open mouth with golden down. This hangs with the pouch drooping and the opening pointing out and somewhat upwards from the short flower stem. Above this is a little diadem of elon-

NATURE NOTES

gated pink petals. These are a solid pink and are shaped like shortened blades of grass. The hollow pouch, however, is flaked or dappled with a rich yellow. The flower could be hidden under your thumb, and only one grows, half-drooping, from the stem which is but a couple of inches high and springs from a single dark green leaf.

These darling little orchid babies can only be found in moist shady spots where fallen needles make a rich bed of humus. And, of course, the parents will be nearby. Down in the marshy land along the edges of the softly purling stream are handsome blossoms of gold. Imagine a pigeon's egg made of the soft, velvety texture of a lily and colored with the richest gold. Attach this at one end to an erect green stem which stands less than a hand above the sod, and let it droop down slightly. On the upper side, near its attachment, fashion an opening which shall have its edges curving gracefully into the empty pouch.

In this opening have some stamens and pistils deftly concealed so that any rummaging insect will have to pay for his feast by carrying a goodly load of pollen. Set the stem in a rosette of long lily-like leaves and hide it all in the luscious green grass in the shadiest nook of some boggy stream bed, and you will have only the suggestion of an orchid. Such

THE ORCHIDS

things are not for the hand of man; only the master workman can fashion them.

This orchid known as the yellow ladies' slipper (*Cypripedium parviflorum*), is the only solid and substantial member of our orchid flora. It is not very common; its very rarity makes it treasured. If it grew on our lawns as do dandelions we should call it a pest and wonder why God ever fashioned such a hideous flower. But here in this bosky bit of marshland it is a true beauty and we can well think of it in the parent's role in our little family. And such a prosperous, golden-coated father!

But the children are a skitter-skatter lot, and maybe you will see them and perhaps you will not. The yellow ladies' slipper is fairly common, but these are offered as choice prizes to the more diligent searchers. Become a "bog trotter for orchids."

There is the coral root that grows as a saprophyte on dead pine needles, a flesh colored stalk almost a foot high which is clustered with a dozen little flowers that are white lipped, profusely spotted with pink, and sheathed in a cluster of pink blades. Or you may find the rattlesnake plantain, with its short leafless stalk and peculiarly marked leaves "like the belly of a serpent," which has a spike of tiny lily white flowers done in miniature.

NATURE NOTES

The habenaria (*Limnorchis viridiflora*) has been very common, but its foot high stalk bears such tiny, greenish, two-lipped flowers that most people fail to notice it and might be disappointed in it as an orchid if they did. But down in their bog as one of the last blossoms of the season they may find the delicate little spike of ladies' tresses (*Spiranthes stricta*). A green stalk it is, scarce a foot high and often much less, whose upper half has three spiral lines of pure white blossoms winding around it. These little blossoms are two-lipped and have within them such a device for using insects to pollinate them that such men as Asa Gray and Charles Darwin have given hours and hours to the study of it. But it is for their pristine beauty that we relish the blossoms, and we shall think of them as the cute little queue worn down the back of a frolicking little girl rather than my ladies' tresses.

THE WAPITI OR ELK



HE monotonous crunch-crunch of your feet on the gravel is hushed as you step onto the soft cushions of the kinnikinnik. Dead aspens are strewn like jack straws on the green, and they crack and snap as you thread your way over them.

The grove thickens and the leaves tremble and flash as a tiny breeze trickles thru. Your lonely thoughts beat in regular rythm with your steps. Suddenly you stop instinctively. A delicious shiver tingles up your back and every hair jumps on tiptoe to see what is the matter.

Motionless as a statue a big deer stands gazing at you; two does hesitate, half frightened, behind him. Your breathing stops, as face to face you stand. A twig cracks under your foot, the charm is broken — with a leap they bounce over the ridge, and you are alone with a great emptiness somewhere within you. A little black capped rascal in a nearby spruce laughs out his chickadee-dee-dee. You draw in a deep breath, your hair settles down, and the tickly feeling gradually leaves your spine. Why didn't you do something? Why didn't you take his picture? You cannot answer. Your me-

NATURE NOTES

mory can only paint those big solemn eyes, the frightened leap, and bounding disappearance of the beauties. Strange, isn't it? Some men claim to enjoy murdering such wonderful creatures as these.

We have three representatives of the deer group of mammals in our region — the American elk or wapiti, recently introduced; the black-tailed or mule deer of our mountains, and the antelope or pronghorn of the plains. None of them is so common that the thrill of meeting them can wear off. They resemble each other in their cloven hoofs, and annually shed horns. Some time in each winter these horns drop off, leaving only a core or stub. The rapidly growing new horn is soft and full of blood vessels, and is clothed in a downy covering known as "velvet." In the fall this velvet is worn off and the hardened horns are now ready for the terrific fights of the males. Each year the horn is more elaborate, and the number of "points" is a fair means of determining the age of the owner.

The magnificent elk has been almost exterminated thruout our country. They left our region long ago. But last winter a group of public-spirited citizens secured a herd from the Yellowstone national park and corralled and fed them, up on Cascade creek. Protected by law, they should thrive here, and we are all watching with interest

THE WAPITI OR ELK

the fate of this little herd. Let us use, as far as possible, the good old Indian name "wapiti" (with the accent on the first syllable, if you please), in place of the better known name "elk," which has been borrowed from Europe, and there refers to an entirely different beast which more nearly resembles a moose. Patronize home industry in nomenclature, especially when it furnishes a so much better name.

King of the group, the wapiti stands head and shoulders above the others. Eight feet long, he stands five and a half feet high at the shoulders, and carries the huge weight of antlers that measure from four to five feet in length, curving backward and outward from his forehead. These show many points rather irregularly placed. The body is a yellowish brown showing in contrast to the dark brown of the head, chest and neck.

What keen joy it would be in the fall to stand close by and listen to a huge bull "bugling," as he utters his love call or challenge — "a tremendous guttural roaring that rises in pitch to trumpet tones and higher until it breaks into a shrill screaming whistle, then fades and drops again into the guttural, followed and ended by a few savage grunts;" then to see two bulls charge with lowered horns until one is vanquished and the other leads off the

NATURE NOTES

harem, or perhaps both fume and stamp as they try to disentangle the locked horns which will bind them together to death.

Early next June, we might find a couple of little babies, hidden under a blossom-bedecked thimble berry by the wary mother. But only a few days will they stay there, for it is not long until they can keep up with their fleet-footed dams. Then we should only see their little spotted coats streaking it over the hillside.



DEER AND ANTELOPE



IF YOU had been on one of Pike's early expeditions, you would undoubtedly have seen many white-tailed deer along the cottonwood and brush-grown bottoms of our streams. But today we find that they have been crowded out, almost to extermination. Only a few counties in the state have records of their appearance. We have two native deer in Colorado, however; and, fortunately, the other species is still fairly common. It is the black-tailed deer, or mule deer, which we find usually up in the mountains. Or shall we say it is the tracks of this deer that are common? For, with few exceptions, that is all most of us have to content ourselves with on our tramps.

From between his mule-like ears spring a pair of beautiful antlers. These, unlike the antlers of the wapiti, are very symmetrical, as each fork branches evenly again and again. The animal is a yellowish color in summer, but at the approach of winter he changes his suit for one of a bluish-gray color. Except for a dark patch between his eyes, the face is white, and the chin is almost immaculate in its whiteness. The under parts and the inner sides

of his legs also are white, as is the tail. This tail is so conspicuously tipped with black that it gives him one of his names. The chief distinguishing feature, however, by which to tell him from the wapiti, is his size. He is much smaller, being only six or seven feet long and standing only three and a half feet high at the shoulders. But his many branched antlers, measuring from one and a half to three feet in length, make him look much taller than this.

It is claimed that the mule deer has very poor sight. He will stand and gaze at you with unseeing eyes; then, if you move, he detects your presence, of which he was already vaguely aware by his keen scent, and darts off in a series of jerky bounds. His gait is unlike that of any other deer. Roosevelt describes it by saying that it "consists of a series of stiff-legged bounds, all four feet leaving and striking the ground at the same time."

Major Pond has described a band of antelope which measured close to two million, which he encountered between Denver and Cheyenne in 1869. They were sold by the wagon load in Denver, "three or four carcasses for two bits (twenty-five cents), that being the smallest coin in use." Today we catch an occasional glimpse of a small band on the plains to the south of us. These antelope are con-

DEER AND ANTELOPE

siderably smaller than the deer and are much more fleet. They are said to be the fastest game animal in North America. Their speed has been estimated at thirty-two miles an hour. The body is yellowish brown, with conspicuous white under parts that reach even up onto the neck. Wave a handkerchief and the curious little beast will draw nearer to investigate. Then, as he scents danger, he will fly off with the speed of the wind. As he goes, we see nothing but the white patches blazing out on his buttocks.

These are the original heliographs. Dependent upon his speed for safety, an antelope grazes with his flock. He scents danger and lifts his head. A wolf is spied and instantly all of the hairs on his buttocks stand straight up and flash white "like a tin pan in the sun." The same muscles force out a drop of scent from the musk gland in the center of the rump patch. The message is read immediately by all of his comrades, their buttocks flash white, and with a bound they are gone. Marconi, leave your little wireless telegraph for a minute and come out and study the antelope.

LARKS



ERE Shelley to come and ask to see our lark, we should take him out upon the rolling plains to the east of us. It would not be long until a few little earth-covered fellows would startle up with a short whistled note and, flying close to the ground, barely top the border of the dusty weeds and run off into the pasture beyond the interminable barb wire fence. If we were very, very fortunate and the season were right, one of the little fellows might fly up into the air and circle and tack up and up;

“Higher still and higher

From the earth thou springest

Like a cloud of fire;

The blue deep thou wingest,

And singing still dost soar, and soaring ever
singing.”

But the weak little notes that would tinkle down to us from the tiny bird lost in the blue above, would only make Shelley homesick for his skylark. Our little bird throws his soul into the effort, strains heaven-ward with pitiful earnestness, but like so

LARKS

many of us he fails. His song is but a weak little thing.

This is our only lark, the desert horned lark (*Otocoris alpestris leucoloema*). They are ground lovers, perching, nesting and living on the ground except when they essay their vain attempt at song.

Let us creep cautiously up to that fellow standing on the tussock of grass. His back is such a sandy-brown that you can scarcely see him. But as he turns toward us we catch a flash of color. His breast is yellow, very light, and is crossed with a narrow ribbon of black. From the corners of his mouth black streaks bend down towards his neck like the curled mustaches of a Chinese mandarin. His forehead is white or yellowish in contrast to the black spot on the top of his head which curves back on either side and stands up on its erectile feathers as a pair of black horns. In the winter we shall see these earth-colored little fellows congregating in great flocks that will move into the city for us to feed if the snow becomes too deep.

If it were only spring and the green things were beginning to tint these rolling prairies, we should have no need of apology. First on this side, then on that, would ring out the true song of our meadow-lark. He may be an imposter as a lark, but there was never a truer musician. His clear

NATURE NOTES

whistle, as clear as a fife, rings down the wind, but with its clearness there is something soft and full as it suddenly ducks down a note and slides into a slurring trill. Down in a series of looping curves of sound it rings. No two birds sing quite alike, but the quality of tone is the same and they all fill them with delicate grace notes as they loop the plaintive melody thru its varying changes. Yes, Shelley, "Our sweetest songs are those that tell of saddest thought." If you were home-sick before for your native heaths, how must you feel now as this soul straining song quavers down the wind—a wistful reaching toward the great unknown.

As he sits on the nearby fence post, the rich yellow of his breast with the jet black crescent hanging on it shows very plainly. A turn of the head shows the streakings of dull white and brown reaching back to the mottled brown back. As we step closer, the song ceases and with a startled trill he flies off, alternately flapping and coasting, his white margined tail wide spread, until he lights in the grass and runs out of sight. That trill gives him away. He belongs to the blackbird family.

BIG GAME



RANGING around the glacier-sculptured slopes of the Peak, browsing on the short grasses of the alpine meadows, fearlessly scaling the cliffs of our barren mountains, is a flock of mountain sheep. Not at all rarely are they seen. Occasionally they range down into the lower mountains, and have even been seen on the sheer cliffs of the Cheyenne canons. Protected by law, they are on the increase. Last year several observers brought in the report of twenty-seven sheep in the flock, and this year the flock is reported to have grown to twenty-nine. They are often called bighorn (*Ovis canadensis*), and the name is thoroly descriptive. The head of a ram is considered one of the rarest of game trophies, with its heavy back-curving horns. We sometimes hear of a strange animal, the ibex, with horns which are almost straight and not so heavy. It is only the female of the bighorn. We have only one species of mountain sheep in Colorado, the handsome grayish-brown fellow, with whitish underparts, that stands clear on the sharpest jag of rock and looks over the cliff to the little meadows and lakes a thousand feet below.

NATURE NOTES

"But are there any really big animals here?" the small boy breathlessly asks, as he lays down his exciting tale of early western days. Yes, Johnny, there are; but you probably will never see them unless you go to a circus. There are a few of several of the larger animals still left in our mountains. Fearful of man, they skulk about our hills, and now and then leave their marks in his way. An occasional report is heard of a black bear, and there are still a few in the region. Sometimes we call them cinnamon bears, or brown bears; but they are all color variations of the black bear (*Ursus americanus*).

It is very rarely that the skin of a fox is obtained in this region, but that there are still a few individuals picking up a living here, is firmly believed. The pinon fox skulks up and down the dry arroyos that lead into the foothills and lower mountains — Scott's gray fox he is also called (*Urocyon cinereo-argenteus scotti*). He is grizzled gray above. In the higher mountains, ranging from 8,000 feet to timberline, may be an occasional western red fox (*Vulpes macrourus*), with a reddish fulvous coat. So consistently does he avoid man that, unlike his eastern cousin, he seems even to abstain from the pleasures of a rancher's chicken house.

BIG GAME

While the fox's tail is long and bushy, more than half as long as the body, the wolves have a much smaller and shorter tail. Our only wolf is the gray wolf, sometimes called the timber wolf (*Canis nubilus*). He is a big fellow, over four feet long, and is evenly colored with a gray coat that becomes somewhat lighter on the underparts. Fero-cious and destructive, he has a bad reputation, and we may congratulate ourselves on his scarcity hereabouts.

The skulking cowardly little wolves, however, are anything but rare. Coyotes we call them. They seem to thrive with man as neighbors in spite of the fact that many are killed each year. They range from the plains to above timber line and hunt down any animal they can kill, steal an occasional chicken, or satisfy themselves with the leavings of some other's kill. Our commonest form probably is the Nebraska coyote (*Canis nebraskensis*), and he it is who makes the night hideous out on the plains with his ventriloqual howling, his awful complaint to the stars.

Not at all rare is the mountain bobcat (*Lynx uinta*). This stubby-tailed cat is even seen down in our canons and near wagon roads, and up in the mountains to 10,000 feet. Leaving their rocky homes, they go out of nights to stalk their prey, now

NATURE NOTES

and then uttering a wild scream to see what they can scare up. They are cowardly and easily treed, and, unless you keep chickens at your mountain home, you have nothing to fear from them.

Not such a good companion to meet is the mountain lion or Rocky Mountain cougar (*Felix hippestes*). But, fortunately, he is just as anxious to avoid the meeting as you are, and probably will never let you get within sight of him. Seven or eight feet long, the huge, crouching body is evenly colored with a pale fulvous brown. They are capable of bringing down the largest game, and live almost exclusively on flesh of their own killing. One was killed last winter back of Palmer Lake; several years ago one was killed up above Green Mountain Falls, and it is claimed that the tracks are often seen of a pair that range from upper Williams canon across Ute pass and the French creek country and over into the wild regions of Cascade creek.

But we can only think of these big animals, that draw from us so much wonder and awe in the light of the day, ranging thru the darkest nights over the barren hills and deserted valleys. They add a romance to the hills and give us something to think of as we tramp along our lonesome trails.

WILD CANARIES



THE high grass in front of the vacant house next door is shaggy with the white tops of the seedy dandelions. These hoary veterans of the invincible weed army are not so handsome as the young blossoms which first bivouacked on the lawn. These glorious disks of gold, if we lay all prejudice aside, were as pretty as any flower that blooms, with their cheerful, sunny faces laughing in bright contrast to the dark green grass. But now there is no color, we think to ourselves; and as swiftly as the thoughts alight in our idle mind, a troop of golden feathers drops into the yard next door. We don't know where they came from, but there they flit about on the long-legged dandelions, chattering and laughing and working at the seeds with a hearty good will.

"Wild canaries," you say, as you sit up to watch them, throwing your magazine aside and leaving the heroine unkissed for the present.. This name comes as easily as breathing to all people; it is as simple as a knowledge of the sun's revolution around the earth — and just as incorrect. Practically these beauties that are feasting on seeded dandelions are

NATURE NOTES

wild canaries indeed — call them so, but back in your mind's storehouse record the fact that they are not canaries at all; that the canary is a European bird imported into our land; that these little fellows are gold-finches.

What refined little birds they are, how cheery and contented, what perfect little gentlemen — even the ladies — animated beams of sunlight, nattily decorated with jet black and wispy white! They are a rich lemon yellow, except for a trim little cap and their wings and tail and these are jettest black. The wings have a few narrow bars of white. As they daringly balance on the swaying stalk they lisp the sweetest little endearments to each other; "Hear me, hear me, dearie!" they sing, for they are soft hearted little lovers.

There is a little fellow teetering on that thistle in the lot across the street. Come and listen to his song. He is singing as he flies in that graceful undulating line. There he alights on a tall sunflower and pours out a very cascade of melody. It is as sweet as the canaries' song, with its trills and sustained notes and rich variety of motifs. As sweet? Yes, sweeter, as are all things out under the open sky sweeter than those that are caged in dark houses.

WILD CANARIES

Perhaps it is the little summer warbler (*Dendroica aestiva*) that you have called the wild canary. A little yellow flutterer he is, whose coat is the same color all over except for some inconspicuous suggestions of red streaking his breast. As he scurries around in the dense foliage overhead he is hard to watch, being the same color as the sun-flashed leaves. Or it may be any of the other dozen or two warblers that we have. As they flutter about in the trees over our heads we are scarcely aware of them. They have been described as "our most beautiful, most abundant and least known birds."

When the migration begins, go down into Monument Valley park and wander thru the bushes and under the shadiest trees, with a field glass to help you in your search, and you will see many species of warbler that you ever dreamed existed. As you cautiously sneak around the corner of a bush you are apt to see a sudden disentanglement on a nearby bench and two young folks will do their best to look as tho they were utter strangers. Be careful, is all I urge upon you, for the bird enthusiast discovers much more than the birds in the trees on his wild ramblings.

THE GENTIAN



HOU waitest late, and comest
alone

When woods are bare and birds
have flown

And frost and shortening days por-
tend

The aged year is near his end.

Then doth thy sweet and quiet eye

Look thru its fringes to the sky,

Blue—blue—as if that sky let fall

A flower from its cerulean wall.”

Thus Bryant wrote of the fringed gentian. We of the west cannot enjoy this particular flower whose beauty he extolled, but we have a gentian that is just as beautiful. While his lines are not quite true of our flower in a few minor details, they just as truly express the spirit or atmosphere that dwells within our cups of blue. Gentians and the fall of the year suggest each other, and the first of these flowers seems a John the Baptist in the wilderness, singing of the brilliant days of Indian summer which are to come. It is but the first of August; yet the red leaves of the wild geranium that blaze forth here and there, the touches of color on a few branches of wild plums, and the irresistible sugges-

THE GENTIAN

tion thrown out by the flashes of blue in our first bunches of gentian all make us feel that the autumnal season is at hand — the season of ripening fruits and colored leaves and vintage.

Is not our gentian a beautiful symbol of this season of the full wine cup? Pull back the leaves that almost hide the blossom and get the suggestion of a royal goblet. The swollen cup gracefully curving back to a narrow neck, and mounted on a rather narrow stalk, is plaited into five beautiful and regular folds. In the sinus of each fold projects a thin wave of blue, which is split at the tip; these five split bracts and the five-pointed and recurved lobes of the cup all flare out, leaving the goblets very open. The color of kings is here; it is well, for this flower takes its name from old King Gentius of Illyria.

All of our gentians have opposite leaves rather long, and clasping the stem at the base. The species just described is *Gentiana Parryi* which has no distinctive common name. It is found in the mountain parks at the middle elevations. Commoner is the little lavender gentian with clusters of blossoms which are only a little over a half inch long. This gentian (*Gentiana plebeja*) has a straight tube bearing at its tip a perfect star of five lavender petals. In the throat of the tube is a circle of long

NATURE NOTES

lavender fringe. Quite different is the dark blue gentian (*Swertia palustris*), which is a faded purple, with enough green in its pigment to make it very dark. On stalks over a foot high these dark, sinister, blue stars can be found shining down upon the waters of some tiny mountain brook upon whose banks they seem invariably to grow. This is not quite a true gentian, however.

If you climb high enough, up to timber line, or even on beyond to the inviting alpine meadows, you will find an almost stemless gentian. It shows clusters of creamy white blossoms which are shaded with streaks of grayish-blue in the plaits or folds of its cup. It is the alpine gentian (*Gentiana frigida*). It resembles our true blue gentian more than any others, and is second only to this large blue cup in beauty. If you hunt very carefully at these higher altitudes you may find a few other species. Sit and dream while resting on these high meadows, dream of Switzerland, where fifteen species of these beautiful flowers can be gathered in a half hour's ramble.

NIGHT



WO by two, swinging down thru the shadows of the canon, with tin cups rattling and hob nails crunching in the road, you join in a song of good fellowship. The spirit of the night is about you; above the jagged thrust of rock silhouetted against the sky are draped fairy curtains of cloud, unreal, lighted by the silvery shimmer of the hidden moon. With your voices you drive back night from you and look upon it as upon a stage, and the drop curtains and wings are piled in dark shadows before you. But you are not in night, you are not a part of it; you are foreign to the shadows and the vague whispers of the breezes playing thru the boughs.

Night is not easily courted; she is wary of her confidences. Travel alone if you will, along some high mountain trail and look down on the twinkling lights of the city, with the crawling glow of autos and trains and cars creeping about thru them. Or lift your head up and look upon the twinkling lights above you, the shimmer of the milky way, the river celestial, and walk with the ancients thru these galleries of romance and poetry. As you sit motionless

NATURE NOTES

and behold the network of interlacing shadows about you, bulking shadows of great mountains and the deep blackness of canons and ravines, the silence of the place will talk to you.

Strange noises will come floating to you from every side, the mournful hooting of an owl, weird voices of unknown animals, the nearby complaint of a tiny bird as he moves his head under his other wing and mutters of crowding to his sleepy comrade. Perhaps the moonlight song of some inspired catbird, night's minstrel, will float up to you. And the splashing of the stream will so weave itself into your mind that you become unaware of it. Hemmed in with mystery, overawed with immensity, you will walk on down the dark trail and seek the lights of home.

If some old mountain lion would take us on his rounds with him tonight what a world we should see! He would teach us how to open our eyes, how to pull back all the curtains so things would be as distinct to us in the shadows as they are in the sunlight. Without a sound we should wander down a little spruce canopied dell.

Dancing with the moonbeams, upon little grassy beds would be a host of fur clad beasties; field mice, shrews, voles and strange little scamperers that we never dreamed existed. Along every moun-

NIGHT

tain dell are hundreds of these little pixies, who hide in subterranean nests from the light of day and the eye of science. They are named and classified but their lives are unknown. Each little fur warmed body is pulsating with life; these midnight glades, and moonlit valleys, are the universe to them. Will-o'-the-wisps we might not find, but mystery enough would be in this Stygian world as we watched these little imps of darkness working out their wee destinies in the big universe.

As we step out into a moonlit meadow and trudge through the waist deep grasses, the wet smell of the creek, night's dampness, enters our lungs. A half mist makes the moonlit slope ahead of us ethereal. In the monotone of gray the shadows are unreal and shape themselves to our fancy. Ghoul or beast we can summon before us until we come close enough to the bulky shadow to find that it is a broken stump. Zwp! something flies past our head and off into the darkness. A moat swirls in a circle and zwp! it flies past us again. Another and another tack and veer in the spooky air overhead. Our hair settles down again as we say to ourselves, "Bats!" and watch them coursing through the moonlit air, feasting on night flying insects. Strange denizens of darkness these. With their

NATURE NOTES

devil like wings and mouse like heads they fit into the spirit of the night.

As we softly tread up and down canons and over the jutting hills we should meet many animals that would scurry from us in fear. We should pass by beds of night blooming flowers over which gorgeous moths were fluttering as they drained the nectar goblets at their midnight revel. The world of night is just as busy as the world of day, and far more attractive for it is all steeped in mystery.



INDEX

<i>Abies concolor</i>	76	ASPEN, THE QUAK-	
<i>Accipiter velox</i>	174	ING	56
<i>Acer glabrum</i>	156	BADGER, THE	161
<i>Achillea millefolium</i>	108	balsam	76
<i>Aconitum columbianum</i> ..	176	Baltimore oriole	159
Adam's needle	42	bats	233
<i>Aeronautes melanoleu-</i>		bear	222
<i>cus</i>	51	bearberry, red	102
<i>Allium cernuum</i>	186	BEARDTONGUES,	
<i>Allium Pikeanum</i>	186	THE	136
<i>Allium reticulatum</i>	186	bear grass	42
American pulsatilla	32	BEE PLANT	115
amphibians, number of..	28	BIG GAME	221
<i>Anemone canadensis</i>	34	big horn	221
<i>Anemone globosa</i>	34	birds, number of	28
ANEMONES	31	bison	139
ANTELOPE, DEER		bloody noses	195
AND	215	BLUE BELLS	168
<i>Anthus rubescens</i>	180	BLUE BIRD, THE.....	99
<i>Aphelocoma woodhousei</i>	205	blue jay	204
April fools	32	bobcat	223
<i>Aquilegia chrysantha</i>	124	<i>Bossekia deliciosa</i>	150
<i>Aquilegia coerulea</i>	124	bottomless pit, Pikes	
<i>Aquilegia saximontana</i> ..	124	Peak	21
<i>Arctostaphylos uva-ursi</i>	102		

NATURE NOTES

BUFFALO, THE	139	COLORADO COLUM-	
BURRO, THE	118	BINE, THE	122
		Colorado, the wild life of	27
		COLUMBINE, THE	
<i>Callospermophilos late-</i>		COLORADO	122
<i>ralis</i>	60	columbine, yellow	124
<i>Calochortus gunnisonii</i> ..	189	columbo, conspicuous ...	131
<i>Calypso borealis</i>	207	CONY OR PIKA, THE	105
calypsos ..	207	coral root	209
<i>Campanula rotundifolia</i>	169	<i>Corvus corax sinuatus</i> ...	179
camp bird	205	COTTONWOODS	53
camping trip	17	cougar	224
CANARIES, WILD	225	cowslip, American	98
<i>Canis nebraskensis</i>	223	coyotes	223
<i>Canis nubilus</i>	223	crater, on Pikes Peak...	178
CEDARS, JUNIPERS		crocus, wild	32
OR	83	currants	155
<i>Cercocarpus parvifolius</i> ..	157	<i>Cyanocephalus cyanoce-</i>	
Cheyenne mountain, in		<i>phalus</i>	205
winter	20	<i>Cyanocitta stelleri dia-</i>	
CHICKADEES	143	<i>demata</i>	204
chickaree, Fremont's	147	<i>Cypripedium parviflo-</i>	
CHIPMUNKS, THE	59	<i>rum</i>	209
CHRISTMAS TREE,			
THE	77	dandelions	225
CICADA, THE	38	DEER AND ANTE-	
<i>Cleome lutea</i>	117	LOPE	215
<i>Cleome serrulata</i>	117	deer, characters of	211
<i>Colaptes cafer collaris</i> ...	133	<i>Delphinium glaucescens</i> ..	177

INDEX

<i>Dendrogapus obscurus</i>	182	FLICKER, RED-	
<i>Dendroica aestiva</i>	227	SHAFTED	133
DIM TRAILS, THE.....	15	flowers, number of	28
<i>Dodecatheon radicans</i> ..	98	for-get-me-nots, Pikes	
dog-day harvest fly.....	38	Peak	171
DOGS, PRAIRIE	44	foxes	222
donkey	118	foxtail pine	71
Douglas fir (or spruce)	77	FRAGRANT PRIM-	
DUSKY GROUSE,		ROSE, THE	47
THE	181	<i>Frasera speciosa scabra</i> ..	131
		Gambel's sparrow	129
Easter flower	32	GAME, BIG	221
ELK, THE WAPITI OR	211	Garden of the Gods,	
ENGLISH SPARROW,		gateway rocks	50
THE	198	<i>Gentiana frigida</i>	230
<i>Equus Africanus</i>	118	<i>Gentiana Parryi</i>	229
<i>Eutamias amoenus oper-</i>		<i>Gentiana plebeja</i>	229
<i>arius</i>	61	gentian, green	131
<i>Eutamias quadrivittatus</i>	61	GENTIANS, THE	228
		gold-finches	226
<i>Felix hippolestes</i>	224	gooseberries	155
field mice	232	gosling	32
FIELD, THE	27	GRAY HEADED	
FIREWEED	201	JUNCO	89
fir, Douglas	77	ground hog	165
firs, how to recognize....	87	ground pine	83
FIRS, THE	74	ground squirrel, Say's....	60
fir, white	74	GROUSE, THE	
		DUSKY	181

NATURE NOTES

habenaria	210	<i>Juniperus scopulorum</i>	84
hare-bells	169	<i>Juniperus sibirica</i>	83
hartshorn plant	32	JUNCO, GRAY	
harvest fly, dog-day.....	38	HEADED	89
HAWK, SHARP-			
SHINNED	172	KINNIKINNIK	102
headache plant	32	<i>Krynitzkia virgata</i>	130
hemlock	79	ladies' slipper, yellow.....	209
<i>Holodiscus dumosus</i>	154	ladies' tresses	210
horned lark	219	LARGE FLOWERED	
HUMMINGBIRD, THE	62	SHRUBS	149
		LARKS	218
ibex	221	LARKSPUR AND	
<i>Icterus bullocki</i>	159	MONKSHOOD	175
<i>Icterus galbula</i>	159	<i>Leucocrinum montanum</i>	185
INCONSPICUOUSLY		life zones	28
FLOWERED		LILIES, THE	184
SHRUBS	155	LILIES, TIGER AND	
Indian chiefs	96	MARIPOSA	187
Indian pink	195	<i>Lilium montanum</i>	188
		<i>Limnorchis viridiflora</i>	210
<i>Jamesia americana</i>	150	lion, mountain	224
JAY BIRDS, THE	204	locust (cicada)	38
JUNIPERS OR CE-		LODGEPOLE AND	
DARS	83	PINON	68
junipers, how to recog-		long-crested jay	204
nize	88	<i>Lynx uinta</i>	223
<i>Juniperus monosperma</i> ..	84	lyreman	38

INDEX

MAGPIE, THE UBI-QUITOUS	35	NIGHT	231
mahogany, mountain	157	ninebark	153
mammals, number of	28	oaks, scrub	155
maple, rocky mountain....	156	onion, alpine	186
MARIPOSA LILIES, TIGER AND	187	onion, wild	185
MARMOT, WHISTLING	165	ORCHIDS, THE	207
mayflower	32	<i>Oreocarya virgata</i>	130
meadow lark	219	ORIOLES, THE	158
meadow sweet, mountain	154	<i>Otocoris alpestris leuco-</i>	
<i>Mephitis</i>	193	<i>laema</i>	219
<i>Mertensia alpina</i>	170	<i>Ovis canadensis</i>	221
<i>Mertensia ciliata</i>	170	owl and prairie dog.....	45
<i>Mertensia lanceolata</i>	170	<i>Pachylophus macroglot-</i>	
mesa	16	<i>tis</i>	47
milfoil	111	pack rat	95
MONKSHOOD, LARK-SPUR AND	175	PAINTBRUSHES	195
mountain lion	224	painted cup	195
mountain mahogany	157	pasque flower	32
MOUNTAIN RAT, THE	93	<i>Penthestes atricapillus</i>	
mountain sheep	221	<i>septrionalis</i>	144
mule	119	<i>Penthestes gambelli</i>	144
<i>Neotoma cinerea orolestes</i>	94	<i>Pentstemon glaber</i>	138
		<i>Pentstemon glaucus</i>	138
		<i>Pentstemon humilus</i>	138
		<i>Pentstemon secundiflor-</i>	
		<i>us</i>	137
		<i>Pentstemon torreyi</i>	138

NATURE NOTES

<i>Perisoreus canadensis</i>		<i>Pinus edulis</i>	70
<i>capitalis</i>	205	<i>Pinus flexilis</i>	71
<i>Physocarpus intermedius</i>	153	<i>Pinus Murrayana</i>	69
<i>Physocarpus monogynus</i>	153	<i>Pinus scopulorum</i>	66
<i>Picea Englemanni</i>	81	pipit	180
<i>Picea pungens</i>	81	plants, number of	28
PIKA, THE CONY OR	105	poplars	54
PIKES PEAK BIRDS....	178	<i>Populus acuminata</i>	54
Pikes Peak, bottomless		<i>Populus angustifolia</i>	54
pit	21	<i>Populus occidentalis</i>	54
Pikes Peak, forget-me-		<i>Populus tremuloides</i>	57
nots	171	PORCUPINE, YEL-	
Pikes Peak region	15	LOW-HAIRED	112
Pikes Peak, summit and		prairies, at night	15
crater	178	PRAIRIE DOGS	44
Pikes Peak, the west side		prairie smoke	32
of	105	pride-of-Ohio	98
Pike, Zebulon	21	PRIMROSE, THE	
pine, ground	83	FRAGRANT	47
pine, Oregon	78	pronuba moth	43
PINE, THE YELLOW..	65	<i>Pseudotsuga mucronata</i> ..	79
pinos, how to recognize..	86	<i>Pulsatilla hirsutissima</i>	33
pinos, lodgepole and		QUAKING ASPEN,	
pinon	68	THE	56
PINES OF THE HIGH		<i>Quercus sp</i>	156
MOUNTAINS	71	quill throwing	113
PINES, REVIEW OF....	86	quiver leaf	57
pinos, white and foxtail	71	Raspberry mountain	20
pinon jay	205	RAT, THE MOUN-	
PINON, LODGEPOLE		TAIN	93
AND	68		
<i>Pinus aristata</i>	71		

INDEX

rattlesnake and prairie dogs	45	SHRUBS, LARGE FLOWERED	149
rattlesnake plantain	209	SHRUBS, TINY FLOWERED	152
ravens	179	<i>Sialia currucoides</i>	99
RED-SHAFTED FLICKER	133	skunk bush	156
reptiles, number of.....	28	SKUNKS	191
REVIEW OF PINES....	86	sky lark	218
<i>Rhus trilobata</i>	156	snake and prairie dog ...	45
rock lily	32	snapdragon	136
rooster heads	93	sneeze, the	130
rose, wild	149	snowball, rocky moun- tain	153
rubberneck, a sight see- ing trip	115	snow bird	89
<i>Rubus deliciosus</i>	150	soap weed	42
 		Spanish bayonet	41
sand lily	185	sparrow, Gambel's	129
scientific names	33	SPARROW, THE ENG- LISH	198
<i>Sciurus aberti ferreus</i> ...	148	SPARROW, WHITE- CROWNED	126
<i>Sciurus fremonti</i>	147	<i>Spilogale</i>	194
<i>Sciurus variegatus</i> <i>grammurus</i>	148	<i>Spiranthes stricta</i>	210
scrub oaks	155	spirea, mountain	154
<i>Selasphorus platycercus</i>	62	spruce, blue	81
Seven lakes country.....	127	spruce, Douglas	78
SHARP-SHINNED HAWK	172	spruce, Englemann	81
sheep, mountain	221	spruces, how to recog- nize	87
SHOOTING STARS ...	96	SPRUCES, THE	80
shrews	232	squirrel, pine	146
SHRUBS, INCONSPIC- UOUS FLOWERED..	155	squirrel, plain backed....	148
		squirrel, rock or gray....	148

NATURE NOTES

SQUIRRELS	146	whisky jack	205
squirrel, Say's ground...	60	WHISTLING MAR-	
sumac, unsavory	156	MOT	165
<i>Swertia palustris</i>	230	WHITE-CROWNED	
SWIFT, WHITE-		SPARROW	126
THROATED	50	white pine, rocky moun-	
		tain	71
thimble-berry	150	WHITE-THROATED	
thousand leaf	111	SWIFT	50
TIGER AND MARI-		WILD CANARIES	225
POSA LILIES	187	wild orange, rocky	
TINY-FLOWERED		mountain	150
SHRUBS	152	wild rose	149
tit-lark	180	WILD TOTEM POLES	130
TOTEM POLES, WILD	130	willow herb	201
TRAILS, THE DIM ...	15	wind flower	32
		woodchuck	165
UBIQUITOUS MAG-		woodhouse jay	205
PIE, THE	35	woodpeckers	133
<i>Urocyon cinereo-argen-</i>		wolves	223
<i>teus scotti</i>	222		
<i>Ursus americanus</i>	222	YARROW	108
voles	232	YELLOW-HAIRED	
<i>Vulpes macrourus</i>	222	PORCUPINE	112
WAPITI OR ELK, THE	211	YELLOW PINE, THE..	65
warblers	227	YUCCA	41
wax flower	150	zones, life	28

